clarion

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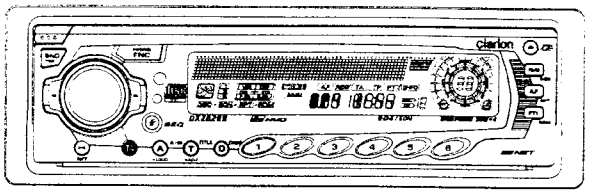
Service Manual



RDS-EON FM/MW/LW Radio CD Combination with DVD/MD/CD Changer/ DSP/EQ / DAB / TV Control

Model ***DXZ828R***

(PE-2524E-A)

■ SPECIFICATIONS

Radio section

Tuning system:	PLL synthesizer tuner
Receiving frequencies:	
	FM : 87.5 to 108 MHz (0.05 MHz steps)
	MW : 531 to 1602 kHz (9 kHz steps)
	LW : 153 to 279 kHz (3 kHz steps)

CD player section

System:	Compact disc digital audio system
Frequency response:	5 Hz to 20 kHz (± 1 dB)
Signal to noise ratio:	100 dB (1 kHz) IHF-A
Dynamic Range:	95 dB (1 kHz)
Distortion:	0.01%

General

Output power :	31 W x 4 (DIN45324, +B=14.4 V)
Power supply voltage:	14.4 V DC (10.8 V to 15.6 V allowable), negative ground
Power consumption:	Less than 15 A
Speaker impedance:	4 Ω (4 Ω to 8 Ω allowable)
Auto antenna rated current:	500 mA or less
Weight:	Main unit 1.6 kg Remote control unit 30 g (including battery)
Dimensions:	Main unit 178(W)x 50(H)x 155(D)mm Remote control unit 44(W)x 110(H)x 27(D)mm

※ Specifications and design are subject to change without notice for further improvement.

■ NOTE

※ We cannot supply PWB with component parts in principle. When a circuit on PWB has failure, please repair it by component parts base. Parts which are not mentioned in service manual are not supplied.

※ CD-ROM discs cannot be played by this unit.

■ COMPONENTS

PE-2524E-A

Main unit	————	1
Remote control unit	RCB-130-301	1
Battery(SUM-3)	————	2
Mounting bracket	300-7742-00	1
DCP case	335-6035-20	1
Escutcheon(OUT-ES)	370-6009-00	1
Parts bag	————	
Removal key	331-2497-00	2
Rubber part	345-3653-20	1
Screw	716-0726-01	1
Extension lead	854-6362-51	1

■ FEATURES

1. RDS-EON Receiver with Controller for DVD,CD and MD Changer / DVD Deck / DSP / EQ / DAB and TV Tuner
2. High Quality CD-Deck with 24-Bit D/A Converter and BEAT EQ (3-Band P.EQ)
3. Fully Detachable Motorized Sloping Console Aluminum Panel With Rotary Encoder and Dual Key Illumination.
4. 4 Volt / 6 Gold Plated RCA Line Level Output and 2-Channel RCA AUX Input with 3 Level Adjustments

■ To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.
   The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.
   The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability(PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.
2. Place the parts and wiring back in their original positions after replacement or re-wiring.
   For proper circuit construction, use of insulationtubes, bonding, gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.
   If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
3. Check for safety after repair.
   Check that the screws, parts and wires are put back securely in their original position after repair.
   Ensure for safety reasons there is no possibility of secondary problems around the repaired spots.
   If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
4. Caution in removal and making wiring connection to the parts for the automobile.
   Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
5. Cautions regarding chips.
   Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.
6. Cautions in handing flexible PWB
   Before working with a soldering iron, make sure that the iron tip temperature is around 270℃. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.
7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.
8. Cautions in checking that the optical pickup lights up
   The laser is focused on the disc reflection surface through the lens of the optical pickup. When checking that the laser optical diode lights up, keep your eyes more than 30cms away from the lens. Prolonged viewing of the laser within 30cms may damage your eyesight.
9. Cautions in handing the optical pickup
   The laser diode of the optical pickup can be damaged by electrostatic charge caused by your clothes and body. Make sure to avoid electrostatic charges on your clothes or body, or discharge static electricity before handling the optical pickup.

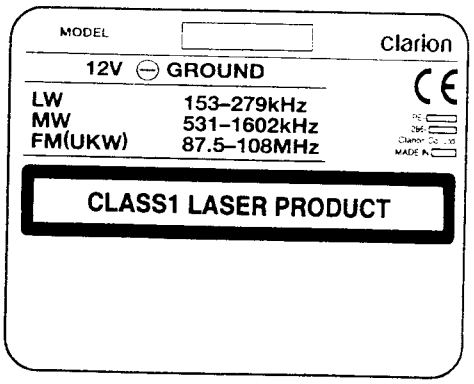
9-1. Laser diode
   The laser diode terminals are shorted for transportation in order to prevent electrostatic damage. After replacement, open the shorted circuit. When removing the pickup from the mechanism, short the terminals by soldering them to prevent this damage.

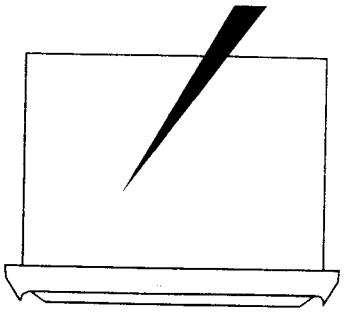
9-2. Actuator
   The actuator has a powerful magnetic circuit. If a magnetic material is put close to it, its characteristics will change. Ensure that no foreign substances enter through the ventilation slots in the cover.

9-3. Cleaning the lens
   Dust on the optical lens affects performance. To clean the lens, apply a small amount of isopropolalcohol to lens paper and wipe the lens gently.

■ CAUTIONS

This appliance contains a laser system and is classified as a "CLASS 1 LASER PRODUST". To use this model properly, read this Owner's Manual carefully and keep this manual for your future reference. In case of any trouble with this player, please contact your nearest "AUTHORIZED service station". To prevent direct exposure to the laser beam, do not try to open the enclosure.





Bottom view of Main Unit

■ ERROR DISPLAYS

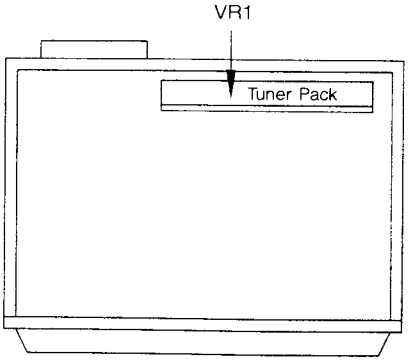
If an error occurs, one of the following displays is displayed.
Take the measures described below to eliminate the problem.

	Error Display	Cause	Measure
CD	ERROR2	A CD is caught inside the CD deck and is not ejected.	This is a failure of CD deck's mechanism.
	ERROR 3	A CD cannot be played due to scratches, etc.	Replace with a non-scratched, non-warped disc.
	ERROR 6	A CD is loaded upside-down inside the CD deck and does not play.	Eject the disc then reload it properly.
CD CH	ERROR 2	A CD inside the CD changer is not loaded.	This is a failure of CD changer's mechanism.
	ERROR 3	A CD inside the CD changer cannot be played due to scratches, etc.	Replace with a non-scratched, non-warped disc.
	ERROR 6	A CD inside the CD changer cannot be played because it is loaded upside-down.	Eject the disc then reload it properly.
MD CH	ERROR H	Displayed when the temperature in the MD changer is too high and playback has been stopped automatically.	Lower the surrounding temperature and wait for a while to cool off MD changer.
	ERROR 2	An MD inside the MD changer is not loaded.	This is a failure of MD changer's mechanism.
	ERROR 3	An MD inside the MD changer cannot be played due to scratches, etc.	Replace with a non-scratched, non-warped disc.
	ERROR 6	An MD inside the MD changer cannot be played because it is loaded upside-down.	Eject the disc then reload it properly.
		Displayed when a non-recorded MD is loaded in the MD changer.	Load a pre-recorded MD in the MD changer.

If an error display other than the ones described above appears, press the reset button.

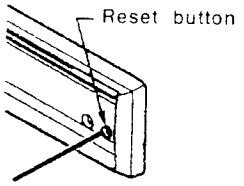
■ ADJUSTMENTS

Item	Procedure	Measuring instrument
S-meter	1.Input the 98.1MHz/30dB μ (400Hz-MOD 30%)signal. 2.Turn on the power switch. And press the AF button and CH6 button at the same time.(TEST MODE) 3.Adjust the reading of LCD indicator to [30----00] (3.0V± 0.2V)by VR1.	SG

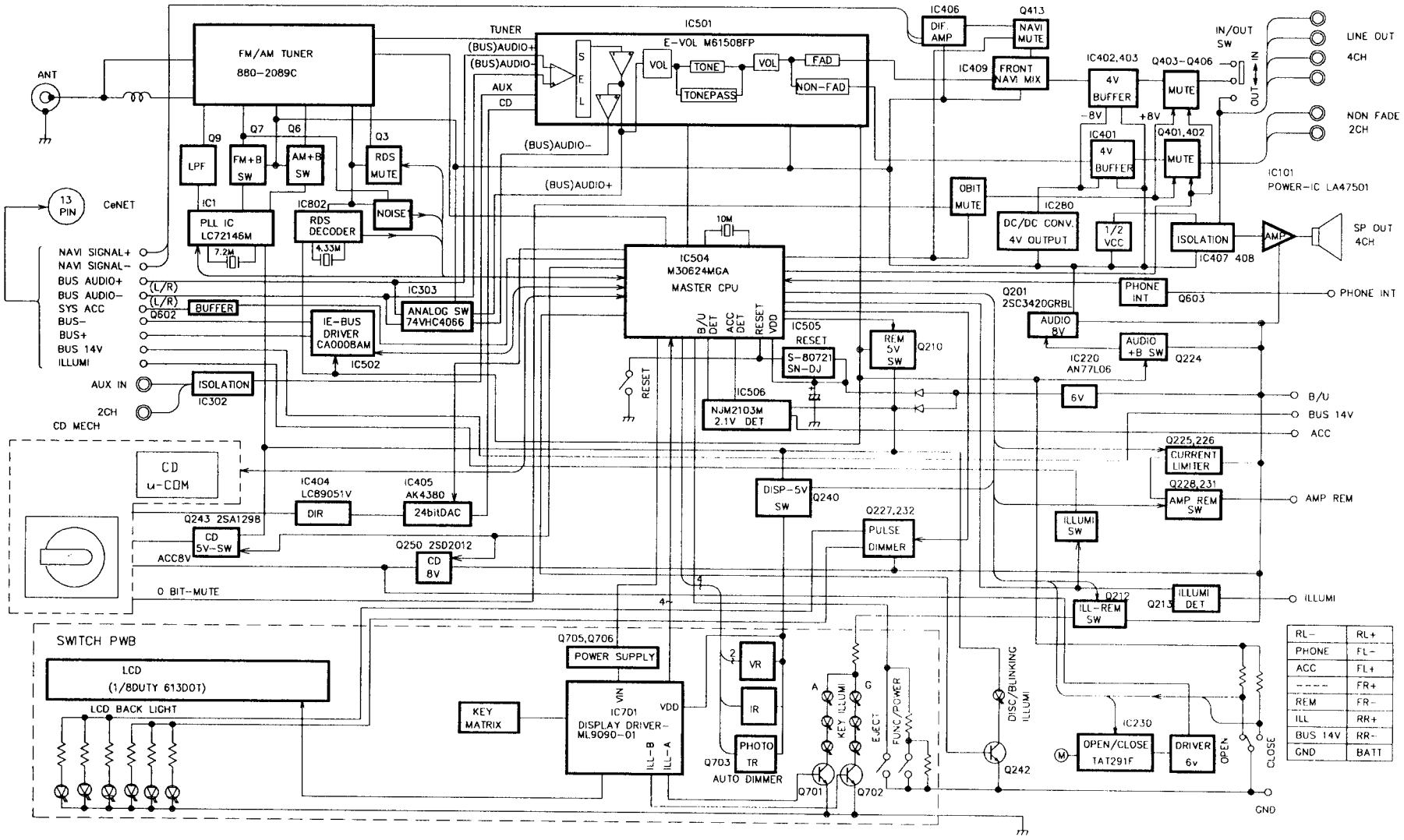


Top side of main unit

■ TROUBLESHOOTING

Problem	Cause	Measure
Power does not turn on. (No sound is produced.)	Fuse is blown.	Replace with a fuse of the same amperage.
	Incorrect wiring.	Read the attached "Installation/Wire Connection Guide" once again and wire properly.
No sound output when operating the unit with amplifiers or power antenna attached.	Power antenna lead is shorted to ground or excessive current is required for remote-on the amplifiers or power antenna.	1. Turn the unit off. 2. Remove all wires attached to the power antenna lead. Check each wire for a possible short to ground using an ohm meter. 3. Turn the unit back on. 4. Reconnect each amplifier remote wire to the power antenna lead one by one. If the amplifiers turn off before all wires are attached, use an external relay to provide remote-on voltage (excessive current required.)
Nothing happens when buttons are pressed. Display is not accurate.	The microprocessor has malfunctioned due to noise, etc.	Turn off the power, then press the RELEASE button and remove the DCP. Press the reset button with a thin rod. 
	DCP or main unit connectors are dirty.	Wipe the dirt off with a soft cloth moistened with cleaning alcohol.
Compact disc cannot be loaded.	Another compact disc is already loaded.	Eject the compact disc before loading the new one.
Sound skips or is noisy.	Compact disc is dirty.	Clean the compact disc with a soft cloth.
	Compact disc is heavily scratched or warped.	Replace with a compact disc with no scratches.
Sound is bad directly after power is turned on.	Water droplets may form on the internal lens when the car is parked in a humid place.	Let dry for about 1 hour with the power on.
Poor sound quality	The equalizer levels are too high.	If the equalizer levels are too high, the sound may distort. Lower the equalizer levels.

BLOCK DIAGRAM



DXZ8BR

■ EXPLANATION OF IC:

■ M30624MGA-E72GP 052-3926-00 MASTER MICRO COMPUTER

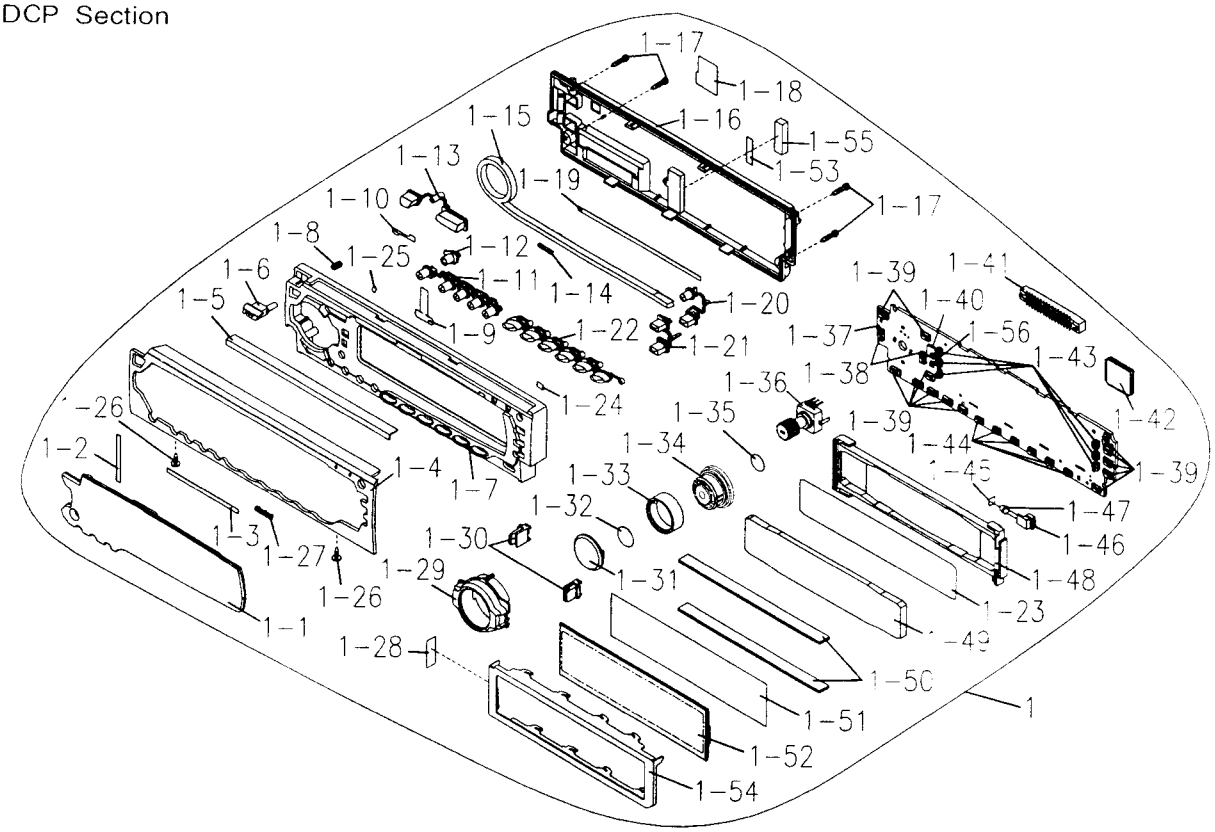
1.Outward Form : 100 pins QFP

2.Terminal Description

pin 1 : CONT : O : Contrast
pin 2 : T-BASE : IN : TO PLL IC PIN 6
pin 3 : CD SBSY : IN : CD MECHA TERMINAL
pin 4 : PLL-CE : O : TO PLL IC PIN 2
pin 5 : REMOCON : IN : REMOTE-CONTROL RECEIVE SIGNAL INPUT TERMINAL
pin 6 : BYTE : IN : Connected GND
pin 7 : VSS : IN : Connected GND
pin 8 : JOG CW : IN : JOG VR input terminal(R)
pin 9 : JOG CCW : IN : JOG VR input terminal(L)
pin 10 : RESET : IN : While it is "LOW",MICOM will be reset
pin 11 : XOUT : O : Connecting terminal for oscillating crystal for main system clock
pin 12 : VSS : — : Connected to GND
pin 13 : XIN : IN : Connecting terminal for oscillating crystal for main system clock
pin 14 : VCC : — : VDD+5V power supply terminal
pin 15 : NMI : IN : Connected to VCC
pin 16 : ACC-DET : IN : ACC DETECTING terminal
pin 17 : $\overline{\text{B/U DET}}$: IN : When this terminal turns low,micro computer detects the B/U OFF and turns micro computer to stopping oscillating
pin 18 : $\overline{\text{KEY INT}}$: IN : KEY insertion input terminal low when EJECT KEY or FNC KEY(power) pushed. When this terminal turns low,KEY A/D terminal
pin 19 : 27 PIN CONNECTOR : IN : MICOM 27PIN terminal
pin 20 : MOTOR - : O : AUTO SLOP control
pin 21 : MOTOR + : O : AUTO SLOP control
pin 22 : BEEP : O : BEEP
pin 23 : MOTOR REM : O : AUTO SLOP control
pin 24 : DIR REF : O :
pin 25 : PAC/CATS L : O : PAC/CATS LED OUTPUT
pin 26 : PULSE DIMMER : O : B/L LED OUTPUT
pin 27 : RX : IN : RECEPTION
pin 28 : TX : O : TRANSMISSION
pin 29 : RDSCDMDTEST : IN : Connected GND
pin 30 : NC : IN : Connected to GND
pin 31 : Z-MUTE : O : Z-MUTE control
pin 32 : EX AMP REMOUT : O : EX AMP REMOUT control
pin 33 : LCD SO : O : Serial data communication line with LCD D-RIVER IC
pin 34 : LCD SI : IN : Serial data communication line with LCD D-RIVER IC
pin 35 : LCD CLK : O : Serial data communication line with LCD D-RIVER IC
pin 36 : LCD KEY FEQ : IN : Serial data communication line with LCD D-RIVER IC
pin 37 : $\overline{\text{LCD CS}}$: O : Serial data communication line with LCD D-RIVER IC
pin 38 : INT1 : IN : INT1=L
pin 39 : INT2 : IN : INT2=L
pin 40 : LD-MUTE : O : Connected to CD MECHA.
pin 41 : LD-CONT : IN : Connected to CD MECHA.
pin 42 : CD TR-A : IN : Terminal to detect the condition of DISC. Loading, chucking or others, when DISC is not inserted, low is input for A/B/C terminal.
pin 43 : CD TR-B : IN : Terminal to detect the condition of DISC. Loading, chucking or others, when DISC is not inserted, low is input for A/B/C terminal.
pin 44 : CHU-SW : — : Connected to CD MECHA.
pin 45 : SSTOP : IN : Connected to CD MECHA.
pin 46 : CD RESET : O : Reset output terminal for CD/Stereo IC.
pin 47 : CD CCE : O : Connected to CD MECHA.
pin 48 : CD BUCK : O : Connected to CD MECHA.
pin 49 : CD BUC3 : O : Serial communication line with slave micro computer.
pin 50 : CD BUC2 : O : Serial communication line with slave micro computer.
pin 51 : CD BUC1 : O : Serial communication line with slave micro computer.
pin 52 : CD BUC0 : O : Serial communication line with slave micro computer.
pin 53 : CD+8V : O : CD Mechanism Loading/CD power on signal output.
pin 54 : VD 5V : O : VDD.
pin 55 : DIR E/OUT : IN : CD MECH Digital signals out.
pin 56 : DIR ERROR : IN : CD MECH Digital signals error.
pin 57 : DIG RESET : O :
pin 58 : DAC DATA : O : Serial data communication line with CD MECH.
pin 59 : DAC CLK : O : Serial data communication line with CD MECH.
pin 60 : VDD : — : power supply terminal.
pin 61 : NC : IN : Connected to GND.
pin 62 : VSS : IN : Connected to GND.
pin 63 : OPEN POSI : IN : AUTO SLOP open position.
pin 64 : CLOSE POSI : IN : AUTO SLOP close position.
pin 65 : ST/SD : IN : SD=HI
pin 66 : NOISE_DCHG : O : RDS NOISE
pin 67 : MUTE_SPEED_UP : O : RDS NOISE
pin 68 : RDS_TEST_ST : O : To PLL IC pin9 and tuner pin19
pin 69 : RDS MUTE : O : RDS output terminal for noise reduction during follow-up motion.
pin 70 : RDS_DATA : IN : Input data form RDS decoder
pin 71 : NC : IN : Connected to GND.
pin 72 : DIG 5V : O : CD 5V power control terminal for CD module
pin 73 : RDS CLK : IN : TO RDS IC pin15
pin 74 : EVOL CLK : O : Serial data communication line to electronic volume IC
pin 75 : EVOL DATA : O : Serial data communication line to electronic volume IC
pin 76 : $\overline{\text{BUS IN/OUT}}$: O : AUDIO IN/OUT control terminal. "H"=IN "L"=OUT
pin 77 : $\overline{\text{LINE MUTE}}$: O : CE-NET MUTE CONTROL. "L"=MUTE
pin 78 : $\overline{\text{AMP MUTE}}$: O : POWER IC MUTE CONTROL. "L"=MUTE
pin 79 : NAVI MUTE : O : Navigation Mute control
pin 80 : $\overline{\text{SYS MUTE}}$: O : SYSTEM MUTE terminal "L"=MUTE
pin 81 : PHONE INT : IN : Phone interruption
pin 82 : $\overline{\text{ILL DET}}$: IN : Illumination signal detection terminal
pin 83 : $\overline{\text{AMP REMDET}}$: IN : AMP REM voltage detection terminal
pin 84 : AMP REMOUT : O : To power IC pin4 mute control
pin 85 : AUTO ANT : O :
pin 86 : 5V REM : O : 5V power supply control terminal for system
pin 87 : NOISE : IN : Noise level detection terminal 1for RDS
pin 88 : S METER : IN : Connects FM S meter and changes indication by the wave strength
pin 89 : KEY A/D : IN : Detection terminal for OPEN/EJECT/FNC KEY
pin 90 : DIMMER-IN : IN : AUTO DIMMER
pin 91 : DISP 5V REM : O : LCD light control
pin 92 : KEY ILL REM : O : SW PWB key light control
pin 93 : SYS ACC : O : CeNET ACC power supply terminal control,"H"=ON
pin 94 : A VSS : — : Connected to GND
pin 95 : NC : IN : Connected to GND
pin 96 : VREF : IN : Standard applied voltage terminal for A/D convert
pin 97 : A VCC : — : B/U 5V voltage supply for A/D convert
pin 98 : PLL SI : IN : FROM PLL IC DATA OUT pin5
pin 99 : PLL SO : O : TO PLL IC DATA IN pin3
pin 100 : PLL CLK : O : TO PLL IC CLOCK IN pin4

■ EXPLODED VIEW • PARTS LIST:

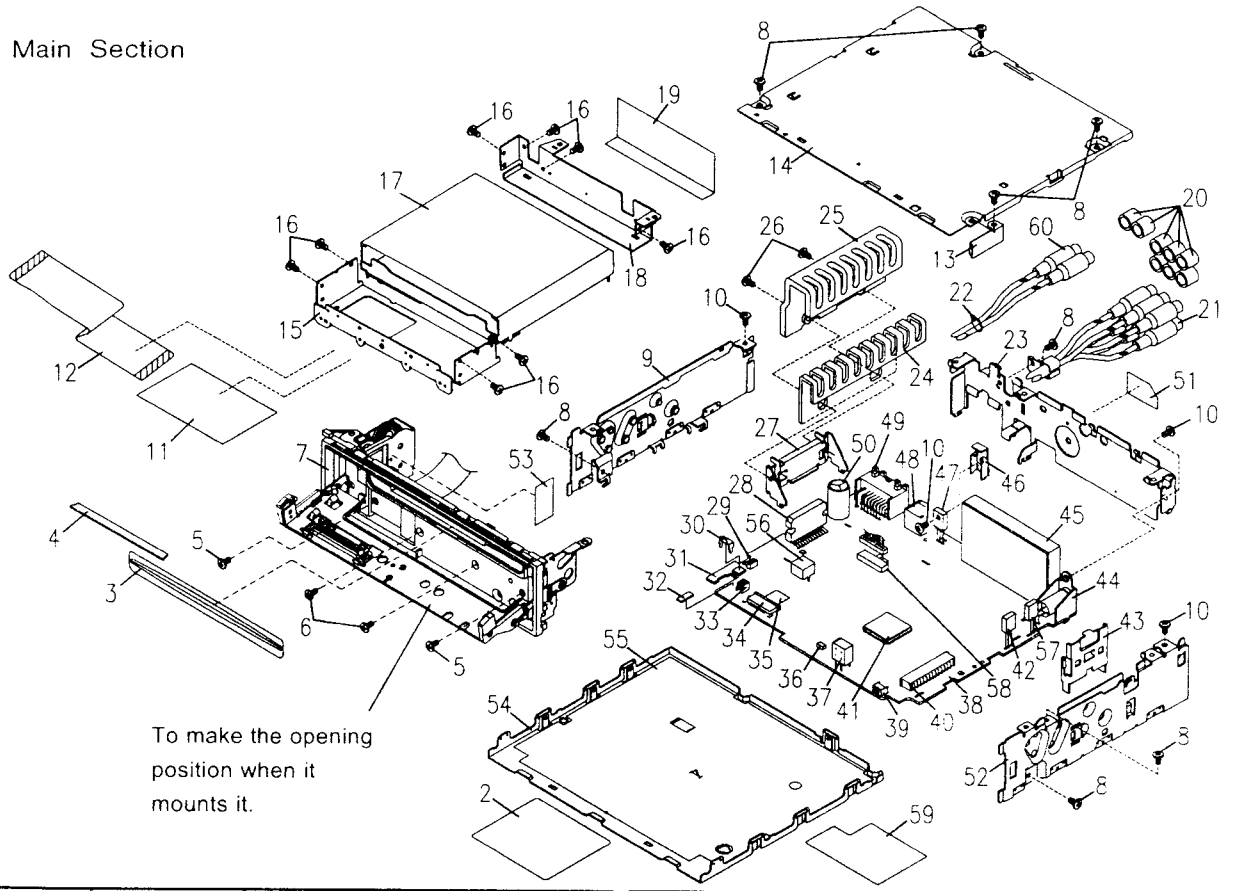
DCP Section



NO.	PARTS NO.	DESCRIPTION	Q'TY
1	DCP-384-700	DCP ASSY	1
1-1	373-0988-01	DIAL-CVR	1
1-2	347-6724-00	DOUBLE FACE	1
1-3	347-6726-00	DOUBLE FACE	1
1-4	371-5713-01	FACE PANEL	1
1-5	347-6723-00	DOUBLE FACE	1
1-6	382-6444-01	BUTTON	1
1-7	370-5995-03	ESCUTCHEON	1
1-8	750-6720-00	SPRING	1
1-9	347-6836-00	SURGE FILM	1
1-10	347-6721-00	SURGE FILM	1
1-11	382-6446-01	BUTTON	1
1-12	382-6451-00	BUTTON	1
1-13	382-6447-00	BUTTON	1
1-14	347-6812-00	FILM	1
1-15	335-6702-00	ILLUMI PLATE	1
1-16	335-6493-02	REAR-CVR	1
1-17	716-0872-12	PAD SCREW	4
1-18	347-6529-00	COVER FILM	1
1-19	347-6734-00	DOUBLE FACE	1
1-20	382-6448-01	BUTTON	1
1-21	382-6449-01	BUTTON	1
1-22	382-6450-00	BUTTON	1
1-23	347-6798-00	REFLECTOR	1
1-24	347-6748-00	FILM	1
1-25	347-6747-00	FILM	1
1-26	778-6019-00	SCREW	2
1-27	378-0537-00	BADGE	1
1-28	347-6737-00	FILM	1

NO.	PARTS NO.	DESCRIPTION	Q'TY
1-29	382-6445-00	BUTTON	1
1-30	335-6704-01	INDICATOR LENS	2
1-31	380-5537-00	ALMI-KNOB	1
1-32	347-6749-00	DOUBLE FACE	1
1-33	345-8680-00	RUBBER RING	1
1-34	380-5538-00	KNOB INNER	1
1-35	347-6741-00	DOUBLE FACE	1
1-36	016-9900-85	ENCODER-SW	1
1-37	039-2167-00	SW-PWB (WITHOUT COMPONENT)	1
1-38	013-6511-50	LUMI-SW	2
1-39	013-6519-50	LUMI-SW	12
1-40	060-4008-00	IR-RECEIVER	1
1-41	076-0647-00	PLUG	1
1-42	051-6057-00	IC	1
1-43	001-7055-90	DIODE	6
1-44	013-6507-50	SWITCH	6
1-45	347-6739-00	FILM	1
1-46	335-6759-00	LED-HOLDER	1
1-47	001-7030-02	DIODE	1
1-48	335-6701-00	LCD-HOLDER	1
1-49	335-6700-00	ILLUMI PLATE	1
1-50	345-5165-00	RUBBER CONNECTOR	2
1-51	347-6728-00	FILM	1
1-52	379-1228-51	INDICATOR	1
1-53	347-6628-00	SPACER FILM	1
1-54	331-3353-00	LCD-CVR	1
1-55	345-8647-00	CUSHION	1
1-56	060-4011-80	PHOTO-TR	1

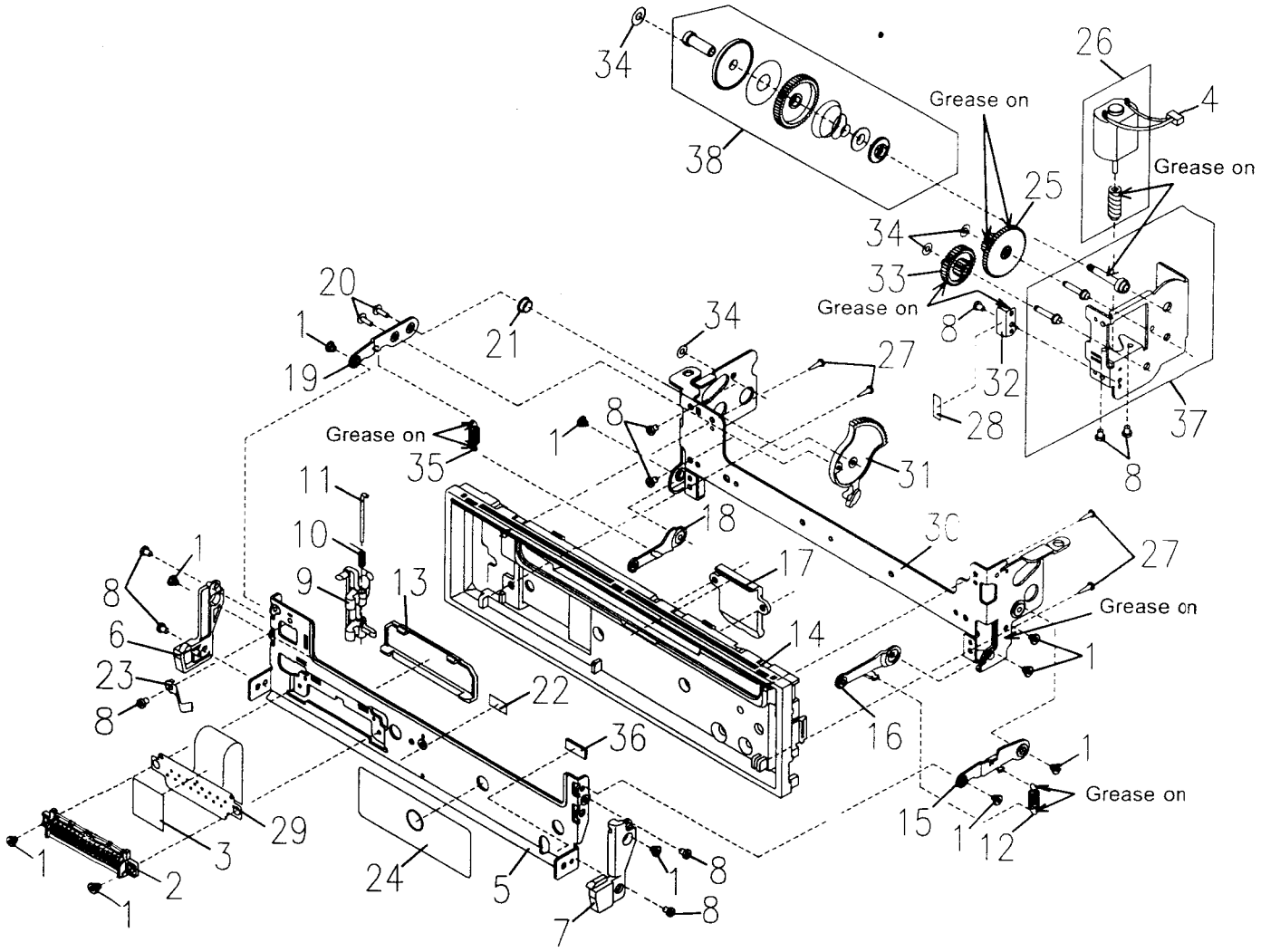
Main Section



NO.	PARTS NO.	DESCRIPTION	QTY
2	286-9941-00	SETPLATE	1
3	346-0147-00	LEATHER-SHEET	1
4	347-6727-00	FILM	1
5	716-0717-10	STEEL SCREW(M2.3x 3)	2
6	780-2005-00	SCREW(M2x 5)	2
7	----------	INNER-ES ASSY	1
8	731-3006-80	TAPTIGHT(M3x 6)	8
9	305-0274-01	SIDE-CVR(L)	1
10	714-3006-81	MACHINE SCREW(M3x 6)	4
11	347-6729-00	INSULATOR	1
12	816-2569-50	FLAT CABLE	1
13	331-2744-00	STOPPER	1
14	303-0472-00	UPPER-CVR	1
15	331-3323-01	CD-SUB-BRKT	1
16	714-2603-80	MACHINE SCREW	8
17	929-0226-80	CD-MECH-MODULE	1
18	331-3324-00	CD-SUB-BRKT	1
19	347-6705-00	INSULATOR	1
20	345-3799-20	RUBBER PART	8
21	855-5424-50	RCA PIN CORD	1
22	335-0833-01	LEAD HOLDER	1
23	307-0616-03	REAR-CVR	1
24	313-1814-00	HEAT SINK	1
25	313-1813-00	HEAT SINK	1
26	731-3008-89	TAPTIGHT(M3x 8)	2
27	331-2255-20	IC-HOLDER	1
28	051-2038-10	IC	1
29	013-7106-00	DETECTOR SWITCH	1
30	331-3378-00	SW-HOLDER	1
31	013-7206-50	DETECTOR SWITCH	1

NO.	PARTS NO.	DESCRIPTION	QTY
32	345-8701-00	CUSHION	1
33	076-0313-02	PLUG	1
34	074-1198-68	OUTLET SOCKER	1
35	347-6215-00	SPACER-FILM	1
36	001-7011-94	DIODE	1
37	042-0650-00	DOUBLE-LAYER-C	1
38	039-2166-00	MAIN PWB (WITHOUT COMPONENT)	1
39	013-6100-00	SWITCH	1
40	074-1138-76	OUTLET SOCKET	1
41	052-3926-00	MICOM	1
42	101-0941-00	TRANSISTOR	1
43	313-1651-21	HEAT SINK	1
44	092-4000-51	ANT-RECEPT	1
45	880-2089C	TUNER	1
46	313-1715-20	HEAT SINK	1
47	102-3420-50	TRANSISTOR	1
48	074-1194-00	OUTLET SOCKET	1
49	074-1214-00	OUTLET SOCKET	1
50	042-0447-00	ALUMI-ELE-C	1
51	347-6245-00	FILM	1
52	305-0275-00	SIDE-CVR(R)	1
53	347-6536-00	PROTECT SHEET	1
54	304-0460-01	LOWER-CVR	1
55	347-5918-00	INSULATOR	1
56	331-2869-00	SHIELD-CASE	1
57	103-2012-00	TRANSISTOR	1
58	013-5102-00	SLIDE SWITCH	1
59	290-7672-00	LABEL	1
60	855-5458-50	RCA PIN CORD	1

Inner-Es assy section



NO.	PARTS NO.	DESCRIPTION	QTY
1	716-1715-02	DECORATIVE SCREW	10
2	074-1278-00	OUTLET SOCKET	1
3	347-6528-00	INSULATER	1
4	854-4380-01	EXTENSION LEAD	1
5	331-3115-00	DCP HOLDER	1
6	335-6507-00	ARM-COVER(L)	1
7	335-6508-00	ARM-COVER(R)	1
8	716-1468-20	SCREW(M2 × 2.5)	10
9	335-6506-00	HOOK	1
10	750-3431-02	SPRING	1
11	341-1736-00	SHAFT	1
12	750-3304-20	SPRING	1
13	335-6499-00	CN-CVR	1
14	370-5935-00	INNER-ES	1
15	331-3117-01	LEVER-UP(R)	1
16	331-3118-01	LEVER-LO(R)	1
17	335-6505-00	ILLUMI PLATE	1
18	331-3119-00	LEVER-LO(L)	1
19	331-3120-00	LEVER-UP(L)	1
20	716-1758-00	PAD SCREW	2

NO.	PARTS NO.	DESCRIPTION	QTY
21	341-1740-00	ROLLER	1
22	347-6527-00	CUSHION	1
23	750-3457-00	SPRING	1
24	291-0099-00	STICKER	1
25	613-0717-00	INPUT GEAR	1
26	634-0023-00	MOTOR ASSY	1
27	716-0872-00	PAD SCREW	4
28	347-6275-00	FILM	1
29	039-1862-00	FPC PWB (WITHOUT COMPONENT)	1
30	309-0772-01	FRONT-PLATE	1
31	613-0719-00	ARM-GEAR	1
32	750-3432-00	SPRING	1
33	613-0720-00	HUS-GEAR	1
34	746-0768-20	WASHER	4
35	750-3303-20	SPRING (ARM)	1
36	345-8701-00	CUSHION	1
37	946-0079-01	GEAR-BOX ASSY	1
38	947-0513-02	T-LIM-GEAR ASSY	1

■ ELECTRICAL PARTS LIST

Main PWB section (B1)

REF No.	PART No.	DESCRIPTION
IC 1	051-6201-90	LC72146M
IC 101	051-2038-10	LA47501
IC 220	051-3201-90	AN77L06
IC 230	051-1014-08	TA7291F
IC 280	051-3605-90	NJM2360A
IC 302	051-3034-90	NJM4558V
IC 303	051-7232-08	4VHC4066
IC 401	051-3034-90	NJM4558V
IC 402	051-3034-90	NJM4558V
IC 403	051-3034-90	NJM4558V
IC 404	051-6327-08	LC89051V
IC 405	051-6370-08	AK4380
IC 406	051-3034-90	NJM4558V
IC 407	051-3034-90	NJM4558V
IC 408	051-3034-90	JM4558V
IC 409	051-7100-08	TC4W66F
IC 501	051-5020-90	M61508FP
IC 502	051-6600-38	CA0008AM
IC 504	052-3926-00	M30624MGA-E72GP
IC 505	051-5407-18	S-80721SN-DJ
IC 506	051-0869-55	NJM2103M
IC 801	051-3034-90	NJM4558V
IC 802	051-5823-00	LC72723M
Q 2	125-0002-03	RN2403
Q 3	103-1306-00	2SD1306
Q 6	100-1162-00	2SA1162
Q 7	100-1162-00	2SA1162
Q 8	125-2004-03	RN1403
Q 9	108-0669-00	2SK669
Q 201	102-3420-00	2SC3420G
Q 202	108-0241-50	SK241Y
Q 210	125-0013-07	RN2427
Q 211	125-2004-06	RN1406
Q 212	100-1162-00	2SA1162
Q 213	102-2712-00	2SC2712
Q 222	100-1162-00	2SA1162
Q 223	125-2004-03	RN1403
Q 224	101-0941-00	2SB941
Q 225	100-1162-00	2SA1162
Q 226	102-2712-00	2SC2712
Q 227	101-1237-50	2SB1237
Q 228	125-2004-03	RN1403
Q 230	100-1162-00	2SA1162
Q 231	100-1416-00	2SA1416
Q 232	101-1237-50	2SB1237
Q 235	125-2004-03	RN1403
Q 236	100-1162-00	2SA1162
Q 239	125-2004-06	RN1406
Q 240	125-2004-03	RN1403
Q 242	125-2004-03	RN1403
Q 243	100-1298-00	2SA1298
Q 244	125-0002-02	RN2402

REF No.	PART No.	DESCRIPTION
Q 245	125-2004-06	RN1406
Q 246	100-1298-00	2SA1298
Q 247	125-2004-03	RN1403
Q 249	125-2004-03	RN1403
Q 250	103-2012-00	2SD2012
Q 251	125-2004-03	RN1403
Q 252	125-2004-06	RN1406
Q 253	125-2004-06	RN1406
Q 307	125-0002-06	RN2406
Q 308	125-2004-03	RN1403
Q 401	103-1306-00	2SD1306
Q 402	103-1306-00	2SD1306
Q 403	103-1306-00	2SD1306
Q 404	103-1306-00	2SD1306
Q 405	103-1306-00	2SD1306
Q 406	103-1306-00	2SD1306
Q 413	125-2004-02	RN1402
Q 414	125-2004-06	RN1406
Q 415	102-2712-00	2SC2712
Q 416	125-0002-06	RN2406
Q 503	125-4001-00	XN1504
Q 504	125-4001-00	XN1504
Q 505	125-0002-01	RN2401
Q 602	125-2004-03	RN1403
Q 603	100-1162-00	2SA1162
Q 617	125-2004-03	RN1403
Q 801	125-2004-02	RN1402
D 101	001-2403-90	MIF60
D 102	001-2403-90	MIF60
D 103	001-2403-90	MIF60
D 104	001-2403-90	MIF60
D 105	001-2403-90	MIF60
D 106	001-2403-90	MIF60
D 107	001-2403-90	MIF60
D 108	001-2403-90	MIF60
D 201	001-0592-00	RM4Z
D 203	001-0504-46	HZS9B2L
D 211	001-0517-00	1SS355
D 212	001-0517-00	1SS355
D 219	001-0377-11	MA4030M
D 221	001-0466-00	S5688B
D 222	001-0466-00	S5688B
D 223	001-0517-00	1SS355
D 225	001-0466-01	S5688G
D 228	001-0377-11	MA4030M
D 229	001-0466-00	S5688B
D 230	001-0466-00	S5688B
D 231	001-0466-00	S5688B
D 241	001-0504-46	HZS9B2L
D 280	001-2606-90	MIFS4
D 401	001-0517-00	1SS355
D 402	001-0517-00	1SS355

REF No	PART No.	DESCRIPTION
D 403	001-0529-44	MA8082M
D 404	001-0517-00	1SS355
D 405	001-0517-00	1SS355
D 501	001-0529-34	MA8062L
D 603	001-0517-00	1SS355
D 606	001-0517-00	1SS355
D 610	001-0517-00	1SS355
D 651	001-7011-94	CL150HR
D 801	001-0517-00	1SS355
D 802	001-0517-00	1SS355
L 1	010-2199-90	220 μ H
L 52	010-4046-00	30 μ H
L 201	010-2199-78	22 μ H
L 202	010-2199-78	22 μ H
L 280	010-2199-78	22 μ H
L 281	010-2199-78	22 μ H
L 282	010-6003-03	270 μ H
L 283	010-2285-56	BLM21B222S
L 408	010-2285-08	BLM21A102FPB
L 409	010-2285-08	BLM21A102FPB
L 410	010-2285-08	BLM21A102FPB
L 411	010-2285-08	BLM21A102FPB
L 412	010-2285-08	BLM21A102FPB
L 413	010-2285-08	BLM21A102FPB
L 414	010-2285-08	BLM21A102FPB
L 415	010-2199-78	22 μ H
L 501	010-2199-78	22 μ H
L 502	010-2199-78	22 μ H
L 505	010-2285-56	BLM21B222S
L 601	010-2198-56	2.2 μ H
L 602	010-2198-56	2.2 μ H
L 603	010-2198-56	2.2 μ H
L 604	010-2198-56	2.2 μ H
L 801	010-2199-90	220 μ H
X 1	061-1066-00	7.2MHZ
X 601	060-1505-50	10MHZ
X 801	061-3013-00	4.33MHZ
C 1	168-2232-05	25V 0.022 μ F
C 2	042-0592-66	35V 4.7 μ F
C 4	163-1053-60	50V 1 μ F
C 5	168-1832-05	25V 0.018 μ F
C 6	168-1832-05	25V 0.018 μ F
C 7	183-4763-32	16V 47 μ F
C 8	168-2232-05	25V 0.022 μ F
C 9	168-2232-05	25V 0.022 μ F
C 10	168-6822-55	50V 6800PF
C 11	183-1073-22	10V 100 μ F
C 12	183-4763-32	16V 47 μ F
C 13	168-1032-05	50V 0.01 μ F
C 14	166-2096-00	50V 2PF
C 16	168-1042-78	25V 0.1 μ F
C 17	168-1222-05	50V 1200PF

REF No.	PART No.	DESCRIPTION
C 18	163-1053-60	50V 1 μ F
C 19	168-8222-55	50V 8200PF
C 20	163-4763-10	6.3V 47 μ F
C 22	166-1011-00	50V 100PF
C 23	166-1011-00	50V 100PF
C 24	166-3311-00	50V 330PF
C 25	166-1501-00	50V 15PF
C 26	166-1801-00	50V 18PF
C 27	168-1032-05	50V 0.01 μ F
C 28	168-2232-05	25V 0.022 μ F
C 29	168-2232-05	25V 0.022 μ F
C 30	166-1011-00	50V 100PF
C 31	166-1011-00	50V 100PF
C 32	168-1022-05	50V 1000PF
C 33	168-1022-05	50V 1000PF
C 34	168-1022-05	50V 1000PF
C 55	166-2201-00	50V 22PF
C 66	166-2201-00	50V 22PF
C 67	168-1032-05	50V 0.01 μ F
C 68	168-1022-05	50V 1000PF
C 101	178-4742-78	25V 0.47 μ F
C 102	178-4742-78	25V 0.47 μ F
C 103	178-4742-78	25V 0.47 μ F
C 104	178-4742-78	25V 0.47 μ F
C 105	163-1053-60	50V 1 μ F
C 106	163-4763-30	16V 47 μ F
C 107	183-3353-62	50V 3.3 μ F
C 108	163-2263-30	16V 22 μ F
C 113	163-1053-60	50V 1 μ F
C 114	166-8201-00	50V 82PF
C 115	168-1022-05	50V 1000PF
C 116	168-1022-05	50V 1000PF
C 117	168-1022-05	50V 1000PF
C 119	172-3331-15	50V 0.033 μ F
C 120	172-3331-15	50V 0.033 μ F
C 121	172-3331-15	50V 0.033 μ F
C 122	172-3331-15	50V 0.033 μ F
C 201	042-0447-00	16V 2200 μ F
C 202	172-2231-15	50V 0.022 μ F
C 203	042-0563-71	10V 100 μ F
C 204	183-2263-32	16V 22 μ F
C 205	168-4732-78	25V 0.047 μ F
C 210	042-0592-50	6.3V 22 μ F
C 211	163-2263-30	16V 22 μ F
C 217	042-0452-02	16V 100 μ F
C 222	183-4763-32	16V 47 μ F
C 223	168-2232-05	25V 0.022 μ F
C 224	172-4731-15	50V 0.047 μ F
C 230	042-0631-50	10V 100 μ F
C 241	183-1063-32	16V 10 μ F
C 243	183-1073-22	10V 100 μ F
C 244	183-1063-32	16V 10 μ F

REF No.	PART No.	DESCRIPTION
C 245	168-1042-78	16V 0.1 μ F
C 280	042-0416-02	10V 10 μ F
C 281	042-0452-01	10V 220 μ F
C 282	042-0631-50	10V 100 μ F
C 283	042-0631-50	10V 100 μ F
C 284	168-2232-05	25V 0.022 μ F
C 285	168-1042-78	16V 0.1 μ F
C 286	168-2212-05	50V 220PF
C 287	168-1042-78	25V 0.1 μ F
C 302	163-1063-30	16V 10 μ F
C 304	163-1063-30	16V 10 μ F
C 305	163-1063-30	16V 10 μ F
C 306	163-1063-30	16V 10 μ F
C 308	163-1063-30	16V 10 μ F
C 309	163-1063-30	16V 10 μ F
C 310	163-1063-30	16V 10 μ F
C 311	163-1063-30	16V 10 μ F
C 312	163-1063-30	16V 10 μ F
C 313	163-1063-30	16V 10 μ F
C 318	163-1063-30	16V 10 μ F
C 319	163-1063-30	16V 10 μ F
C 320	163-1063-30	16V 10 μ F
C 321	163-1063-30	16V 10 μ F
C 405	042-0592-74	50V 2.2 μ F
C 406	042-0592-74	50V 2.2 μ F
C 407	042-0592-74	50V 2.2 μ F
C 408	042-0592-74	50V 2.2 μ F
C 409	042-0592-50	6.3V 22 μ F
C 410	042-0592-50	6.3V 22 μ F
C 411	042-0592-50	6.3V 22 μ F
C 412	042-0592-50	6.3V 22 μ F
C 413	042-0592-50	6.3V 22 μ F
C 414	042-0592-50	6.3V 22 μ F
C 415	168-4732-78	25V 0.047 μ F
C 416	168-4732-78	25V 0.047 μ F
C 417	163-1063-30	16V 10 μ F
C 418	163-1063-30	16V 10 μ F
C 419	163-1063-30	16V 10 μ F
C 420	163-1063-30	16V 10 μ F
C 421	163-1063-30	16V 10 μ F
C 422	163-1063-30	16V 10 μ F
C 423	163-1063-30	16V 10 μ F
C 424	163-1063-30	16V 10 μ F
C 426	163-1063-30	16V 10 μ F
C 427	163-1063-30	16V 10 μ F
C 428	163-1063-30	16V 10 μ F
C 429	163-1063-30	16V 10 μ F
C 430	163-1063-30	16V 10 μ F
C 431	042-0563-71	16V 100 μ F
C 433	166-2201-00	50V 22PF
C 434	166-2201-00	50V 22PF
C 435	166-2201-00	50V 22PF

REF No.	PART No.	DESCRIPTION
C 436	166-2201-00	50V 22PF
C 437	166-2201-00	50V 22PF
C 438	166-2201-00	50V 22PF
C 439	168-2222-05	50V 2200PF
C 440	168-2222-05	50V 2200PF
C 441	168-2222-05	50V 2200PF
C 442	168-2222-05	50V 2200PF
C 443	168-2222-05	50V 2200PF
C 444	168-2222-05	50V 2200PF
C 445	168-1042-78	25V 0.1 μ F
C 451	168-1032-05	50V 0.01 μ F
C 502	042-0592-74	50V 2.2 μ F
C 504	042-0592-74	50V 2.2 μ F
C 507	042-0592-74	50V 2.2 μ F
C 508	168-1042-78	25V 0.1 μ F
C 509	042-0592-74	50V 2.2 μ F
C 510	168-1042-78	25V 0.1 μ F
C 511	168-1042-78	25V 0.1 μ F
C 512	168-1042-78	25V 0.1 μ F
C 513	168-4732-78	25V 0.047 μ F
C 517	163-1063-30	16V 10 μ F
C 521	163-1063-30	16V 10 μ F
C 523	163-1063-30	16V 10 μ F
C 530	042-0592-74	50V 2.2 μ F
C 531	042-0592-74	50V 2.2 μ F
C 532	163-1063-30	16V 10 μ F
C 533	163-1063-30	16V 10 μ F
C 534	163-1063-30	16V 10 μ F
C 535	163-1063-30	16V 10 μ F
C 536	042-0592-74	50V 2.2 μ F
C 537	042-0592-74	50V 2.2 μ F
C 550	168-1042-78	25V 0.1 μ F
C 551	168-1032-05	50V 0.01 μ F
C 553	042-0423-00	10V 3.3 μ F
C 554	168-1042-78	16V 0.1 μ F
C 556	168-1042-78	16V 0.1 μ F
C 557	042-0416-02	10V 10 μ F
C 558	042-0416-02	10V 10 μ F
C 559	168-1042-78	25V 0.1 μ F
C 560	042-0397-00	16V 1 μ F
C 561	168-1022-05	50V 1000PF
C 562	168-1042-78	25V 0.1 μ F
C 563	168-1022-05	50V 1000PF
C 564	166-4701-00	50V 47PF
C 601	166-1011-00	50V 100PF
C 602	166-1011-00	50V 100PF
C 605	042-0505-00	25V 1 μ F
C 606	168-4732-78	25V 0.047 μ F
C 607	168-1032-05	50V 0.01 μ F
C 608	168-1022-05	50V 1000PF
C 613	042-0650-00	5.5V 0.1F
C 614	168-1032-05	50V 0.01 μ F

REF No.	PART No.	DESCRIPTION
C 615	042-0577-00	6.3V 100 μ F
C 616	163-1063-30	16V 10 μ F
C 617	168-1022-05	50V 1000PF
C 619	168-4732-78	25V 0.047 μ F
C 620	168-2245-79	25V 0.22 μ F
C 630	166-1011-00	50V 100PF
C 631	166-1011-00	50V 100PF
C 632	168-1032-05	50V 0.01 μ F
C 633	168-1032-05	50V 0.01 μ F
C 634	168-1032-05	50V 0.01 μ F
C 635	168-1042-78	16V 0.1 μ F
C 637	166-1011-00	50V 100PF
C 801	168-2232-05	25V 0.022 μ F
C 802	166-8211-00	50V 820PF
C 803	166-6811-00	50V 680PF
C 804	168-1032-05	50V 0.01 μ F
C 805	168-2232-05	25V 0.022 μ F
C 806	168-1042-78	25V 0.1 μ F
C 807	163-1063-30	16V 10 μ F
C 808	166-3311-00	50V 330PF
C 809	166-5611-00	50V 560PF
C 810	166-2201-00	50V 22PF
C 811	166-2201-00	50V 22PF
C 812	163-4763-10	6.3V 47 μ F
C 813	168-1042-78	16V 0.1 μ F
C 901	166-1011-00	50V 100PF
C 902	168-1022-05	50V 1000PF
C 903	168-1022-05	50V 1000PF
C 904	168-1032-05	50V 0.01 μ F
C 905	168-1032-05	50V 0.01 μ F
C 907	168-1032-05	50V 0.01 μ F
C 908	166-1011-00	50V 100PF
C 909	168-1022-05	50V 1000PF
C 910	168-1022-05	50V 1000PF
C 912	166-1011-00	50V 100PF
C 915	168-1032-05	50V 0.01 μ F
C 916	166-1011-00	50V 100PF
R 1	119-1021-10	1/16W 1K Ω
R 3	119-3311-10	1/16W 330 Ω
R 5	119-4721-10	1/16W 4.7K Ω
R 6	119-1021-10	1/16W 1K Ω
R 7	119-5621-10	1/16W 5.6K Ω
R 8	119-1031-10	1/16W 10K Ω
R 10	119-2221-10	1/16W 2.2K Ω
R 12	111-3311-91	1/4WSS 330 Ω
R 14	119-5631-10	1/16W 56K Ω
R 16	119-2221-10	1/16W 2.2K Ω
R 17	119-5631-10	1/16W 56K Ω
R 18	119-1031-10	1/16W 10K Ω
R 19	119-1031-10	1/16W 10K Ω
R 20	119-1231-10	1/16W 12K Ω
R 21	119-1021-10	1/16W 1K Ω

REF No.	PART No.	DESCRIPTION
R 23	119-2711-10	1/16W 270 Ω
R 24	119-1521-10	1/16W 1.5K Ω
R 25	119-1521-10	1/16W 1.5K Ω
R 26	119-1031-10	1/16W 10K Ω
R 27	119-1021-10	1/16W 1K Ω
R 28	119-1021-10	1/16W 1K Ω
R 29	119-8211-10	1/16W 820 Ω
R 30	119-1041-10	1/16W 100K Ω
R 31	119-1031-10	1/16W 10K Ω
R 101	119-1231-10	1/16W 12K Ω
R 102	119-1031-10	1/16W 10K Ω
R 210	119-1031-10	1/16W 10K Ω
R 211	119-4731-10	1/16W 47K Ω
R 212	119-1531-10	1/16W 15K Ω
R 213	119-1031-10	1/16W 10K Ω
R 214	119-4731-10	1/16W 47K Ω
R 215	119-2221-10	1/16W 2.2K Ω
R 216	119-2221-10	1/16W 2.2K Ω
R 220	119-1031-10	1/16W 10K Ω
R 221	119-3921-10	1/16W 3.9K Ω
R 222	119-1801-10	1/16W 18 Ω
R 223	119-1031-10	1/16W 10K Ω
R 224	111-1591-91	1/4WSS 1.5K Ω
R 225	111-1591-91	1/4WSS 1.5K Ω
R 226	119-4731-10	1/16W 47K Ω
R 227	119-3321-10	1/16W 3.3K Ω
R 228	119-3321-10	1/16W 3.3K Ω
R 229	111-1591-91	1/4WSS 1.5K Ω
R 230	119-2231-10	1/16W 22K Ω
R 231	111-1591-91	1/4WSS 1.5K Ω
R 236	119-1031-10	1/16W 10K Ω
R 238	119-3321-10	1/16W 3.3K Ω
R 239	119-1221-10	1/16W 1.2K Ω
R 240	111-3311-91	1/4WSS 330 Ω
R 241	119-1031-10	1/16W 10K Ω
R 242	111-3311-91	1/4WSS 330 Ω
R 243	119-1031-10	1/16W 10K Ω
R 244	111-4700-91	1/4WSS 47 Ω
R 246	119-1031-10	1/16W 10K Ω
R 247	119-1011-10	1/16W 100 Ω
R 248	119-1031-10	1/16W 10K Ω
R 249	111-1221-91	1/4WSS 1.2K Ω
R 252	111-1521-91	1/4WSS 1.5K Ω
R 253	119-4711-10	1/16W 470 Ω
R 255	111-4700-91	1/4WSS 47 Ω
R 256	111-1221-91	1/4WSS 1.2K Ω
R 257	111-1221-91	1/4WSS 1.2K Ω
R 260	119-2721-10	1/16W 2.7K Ω
R 261	119-1031-10	1/16W 10K Ω
R 281	119-2291-10	1/16W 2.2 Ω
R 282	119-2291-10	1/16W 2.2 Ω
R 283	119-2721-10	1/16W 2.7K Ω

REF No.	PART No.	DESCRIPTION
R 284	119-1531-10	1/16W 15K Ω
R 311	119-1021-10	1/16W 1K Ω
R 331	119-1041-10	1/16W 100K Ω
R 332	119-1041-10	1/16W 100K Ω
R 333	119-1041-10	1/16W 100K Ω
R 334	119-1041-10	1/16W 100K Ω
R 335	119-1041-10	1/16W 100K Ω
R 336	119-1041-10	1/16W 100K Ω
R 337	119-1041-10	1/16W 100K Ω
R 338	119-1041-10	1/16W 100K Ω
R 339	119-4731-10	1/16W 47K Ω
R 340	119-1011-10	1/16W 100 Ω
R 341	119-1011-10	1/16W 100 Ω
R 342	119-1011-10	1/16W 100 Ω
R 343	119-1011-10	1/16W 100 Ω
R 344	119-4721-10	1/16W 4.7K Ω
R 345	119-1021-10	1/16W 1K Ω
R 346	119-4731-10	1/16W 47K Ω
R 347	119-4731-10	1/16W 47K Ω
R 348	119-4731-10	1/16W 47K Ω
R 349	119-4731-10	1/16W 47K Ω
R 350	119-3311-10	1/16W 330 Ω
R 351	119-3311-10	1/16W 330 Ω
R 354	119-3311-10	1/16W 330 Ω
R 355	119-3311-10	1/16W 330 Ω
R 409	119-1021-10	1/16W 1K Ω
R 410	119-1021-10	1/16W 1K Ω
R 411	119-2231-10	1/16W 22K Ω
R 412	119-2231-10	1/16W 22K Ω
R 413	119-1031-10	1/16W 10K Ω
R 414	119-1031-10	1/16W 10K Ω
R 415	119-1021-10	1/16W 1K Ω
R 416	119-1021-10	1/16W 1K Ω
R 417	119-1021-10	1/16W 1K Ω
R 418	119-1021-10	1/16W 1K Ω
R 419	119-1041-10	1/16W 100K Ω
R 420	119-1041-10	1/16W 100K Ω
R 421	119-1041-10	1/16W 100K Ω
R 422	119-1041-10	1/16W 100K Ω
R 423	119-2231-10	1/16W 22K Ω
R 424	119-1031-10	1/16W 10K Ω
R 425	119-1031-10	1/16W 10K Ω
R 426	119-2231-10	1/16W 22K Ω
R 427	119-1031-10	1/16W 10K Ω
R 428	119-1031-10	1/16W 10K Ω
R 429	119-2231-10	1/16W 22K Ω
R 430	119-2231-10	1/16W 22K Ω
R 431	119-2231-10	1/16W 22K Ω
R 432	119-2231-10	1/16W 22K Ω
R 433	119-2231-10	1/16W 22K Ω
R 434	119-2231-10	1/16W 22K Ω
R 435	119-2231-10	1/16W 22K Ω

REF No.	PART No.	DESCRIPTION
R 436	119-2231-10	1/16W 22K Ω
R 437	119-3311-10	1/16W 330 Ω
R 438	119-3311-10	1/16W 330 Ω
R 439	119-3311-10	1/16W 330 Ω
R 440	119-3311-10	1/16W 330 Ω
R 441	119-3311-10	1/16W 330 Ω
R 442	119-3311-10	1/16W 330 Ω
R 443	119-1021-10	1/16W 1K Ω
R 444	119-1021-10	1/16W 1K Ω
R 445	119-1021-10	1/16W 1K Ω
R 446	032-0140-50	1/10W 10K Ω (F)
R 447	032-0140-56	1/10W 12K Ω (F)
R 448	119-2231-10	1/16W 22K Ω
R 449	119-3311-10	1/16W 330 Ω
R 450	032-0140-50	1/10W 10K Ω (F)
R 451	032-0140-56	1/10W 12K Ω (F)
R 452	119-3311-10	1/16W 330 Ω
R 453	032-0140-50	1/10W 10K Ω (F)
R 454	032-0140-56	1/10W 12K Ω (F)
R 455	119-2231-10	1/16W 22K Ω
R 456	032-0140-50	1/10W 10K Ω (F)
R 457	032-0140-56	1/10W 12K Ω (F)
R 458	032-0140-50	1/10W 10K Ω (F)
R 459	032-0140-56	1/10W 12K Ω (F)
R 460	119-2231-10	1/16W 22K Ω
R 461	119-3311-10	1/16W 330 Ω
R 462	032-0140-50	1/10W 10K Ω (F)
R 463	032-0140-56	1/10W 12K Ω (F)
R 464	119-3311-10	1/16W 330 Ω
R 465	032-0140-50	1/10W 10K Ω (F)
R 466	032-0140-56	1/10W 12K Ω (F)
R 467	119-2231-10	1/16W 22K Ω
R 468	032-0140-50	1/10W 10K Ω (F)
R 469	032-0140-56	1/10W 12K Ω (F)
R 470	119-1831-10	1/16W 18K Ω
R 471	119-1031-10	1/16W 10K Ω
R 472	032-0140-89	1/10W 47K Ω (F)
R 473	032-0140-89	1/10W 47K Ω (F)
R 474	032-0140-89	1/10W 47K Ω (F)
R 475	119-1831-10	1/16W 18K Ω
R 476	119-4731-10	1/16W 47K Ω
R 477	032-0140-89	1/10W 47K Ω (F)
R 478	119-1041-10	1/16W 100K Ω
R 479	119-1241-10	1/16W 120K Ω
R 480	119-1021-10	1/16W 1K Ω
R 481	119-1221-10	1/16W 1.2K Ω
R 482	111-3911-91	1/4WSS 390 Ω

REF No.	PART No.	DESCRIPTION
R 483	119-8221-10	1/16W 8.2K Ω
R 484	119-1021-10	1/16W 1K Ω
R 485	119-2231-10	1/16W 22K Ω
R 486	119-1021-10	1/16W 1K Ω
R 487	119-1041-10	1/16W 100K Ω
R 488	119-1041-10	1/16W 100K Ω
R 489	119-1041-10	1/16W 100K Ω
R 490	119-1041-10	1/16W 100K Ω
R 491	119-1041-10	1/16W 100K Ω
R 496	119-1021-10	1/16W 1K Ω
R 511	119-1021-10	1/16W 1K Ω
R 512	119-1021-10	1/16W 1K Ω
R 513	119-1021-10	1/16W 1K Ω
R 514	119-1021-10	1/16W 1K Ω
R 515	119-4721-10	1/16W 4.7K Ω
R 516	119-4721-10	1/16W 4.7K Ω
R 517	119-1021-10	1/16W 1K Ω
R 525	032-0140-52	1/10W 33K Ω (F)
R 526	032-0140-52	1/10W 33K Ω (F)
R 527	032-0140-52	1/10W 33K Ω (F)
R 528	032-0140-52	1/10W 33K Ω (F)
R 529	032-0140-89	1/10W 47K Ω (F)
R 530	032-0140-89	1/10W 47K Ω (F)
R 531	032-0140-89	1/10W 47K Ω (F)
R 532	032-0140-89	1/10W 47K Ω (F)
R 533	119-1041-10	1/16W 100K Ω
R 534	119-1041-10	1/16W 100K Ω
R 550	119-2711-10	1/16W 270 Ω
R 551	119-2711-10	1/16W 270 Ω
R 552	119-2711-10	1/16W 270 Ω
R 553	119-3341-10	1/16W 330K Ω
R 554	119-2431-10	1/16W 24K Ω
R 555	119-2421-10	1/16W 2.4K Ω
R 556	119-5121-10	1/16W 5.1K Ω
R 557	119-1511-10	1/16W 150 Ω
R 559	119-2711-10	1/16W 270 Ω
R 560	119-2711-10	1/16W 270 Ω
R 561	119-2711-10	1/16W 270 Ω
R 562	119-4701-10	1/16W 47 Ω
R 603	111-6801-91	1/4WSS 68 Ω
R 604	119-3321-10	1/16W 3.3K Ω
R 607	119-2231-10	1/16W 22K Ω
R 608	119-1031-10	1/16W 10K Ω
R 609	119-4731-10	1/16W 47K Ω
R 610	119-4721-10	1/16W 4.7K Ω
R 619	119-3311-10	1/16W 330 Ω
R 623	119-1521-10	1/16W 1.5K Ω

REF No.	PART No	DESCRIPTION
R 625	119-1041-10	1/16W 100K Ω
R 626	119-1041-10	1/16W 100K Ω
R 627	119-4731-10	1/16W 47K Ω
R 628	119-4731-10	1/16W 47K Ω
R 637	119-1241-10	1/16W 120K Ω
R 638	119-4731-10	1/16W 47K Ω
R 639	119-4721-10	1/16W 4.7K Ω
R 640	119-4731-10	1/16W 47K Ω
R 641	119-1831-10	1/16W 18K Ω
R 642	119-1031-10	1/16W 10K Ω
R 643	119-5621-10	1/16W 5.6K Ω
R 644	119-1541-10	1/16W 150K Ω
R 645	119-8221-10	1/16W 8.2K Ω
R 646	119-4321-10	1/16W 4.3K Ω
R 650	119-1011-10	1/16W 100 Ω
R 651	119-1011-10	1/16W 100 Ω
R 652	119-1811-10	1/16W 180 Ω
R 653	119-1811-10	1/16W 180 Ω
R 654	119-1811-10	1/16W 180 Ω
R 657	119-4711-10	1/16W 470 Ω
R 658	119-1521-10	1/16W 1.5K Ω
R 671	119-4731-10	1/16W 47K Ω
R 673	119-1041-10	1/16W 100K Ω
R 674	111-2711-91	1/4WSS 270 Ω
R 677	119-1031-10	1/16W 10K Ω
R 678	119-1031-10	1/16W 10K Ω
R 690	119-4721-10	1/16W 4.7K Ω
R 691	119-4721-10	1/16W 4.7K Ω
R 801	119-3331-10	1/16W 33K Ω
R 802	119-1031-10	1/16W 10K Ω
R 803	119-1041-10	1/16W 100K Ω
R 804	119-2211-10	1/16W 220 Ω
R 805	119-1231-10	1/16W 12K Ω
R 806	119-3321-10	1/16W 3.3K Ω
SUP51	060-0122-91	DSP141N
VR101	012-6009-65	470K Ω
FIL401	060-3110-90	NFM4516P13C2O4FT1
S 401	013-5102-00	TKR00620454
S 601	013-6100-00	SKHLLB
S 602	013-7106-00	TKR00120670MM
S 603	013-7206-50	SPPB530701
J 201	074-1214-00	OUTLET SOCKET
J 601	074-1194-00	OUTLET SOCKET
J 602	074-1198-68	OUTLET SOCKET
J 604	076-0313-02	PLUG
J 902	074-1138-76	OUTLET SOCKET

Switch PWB section (B2)

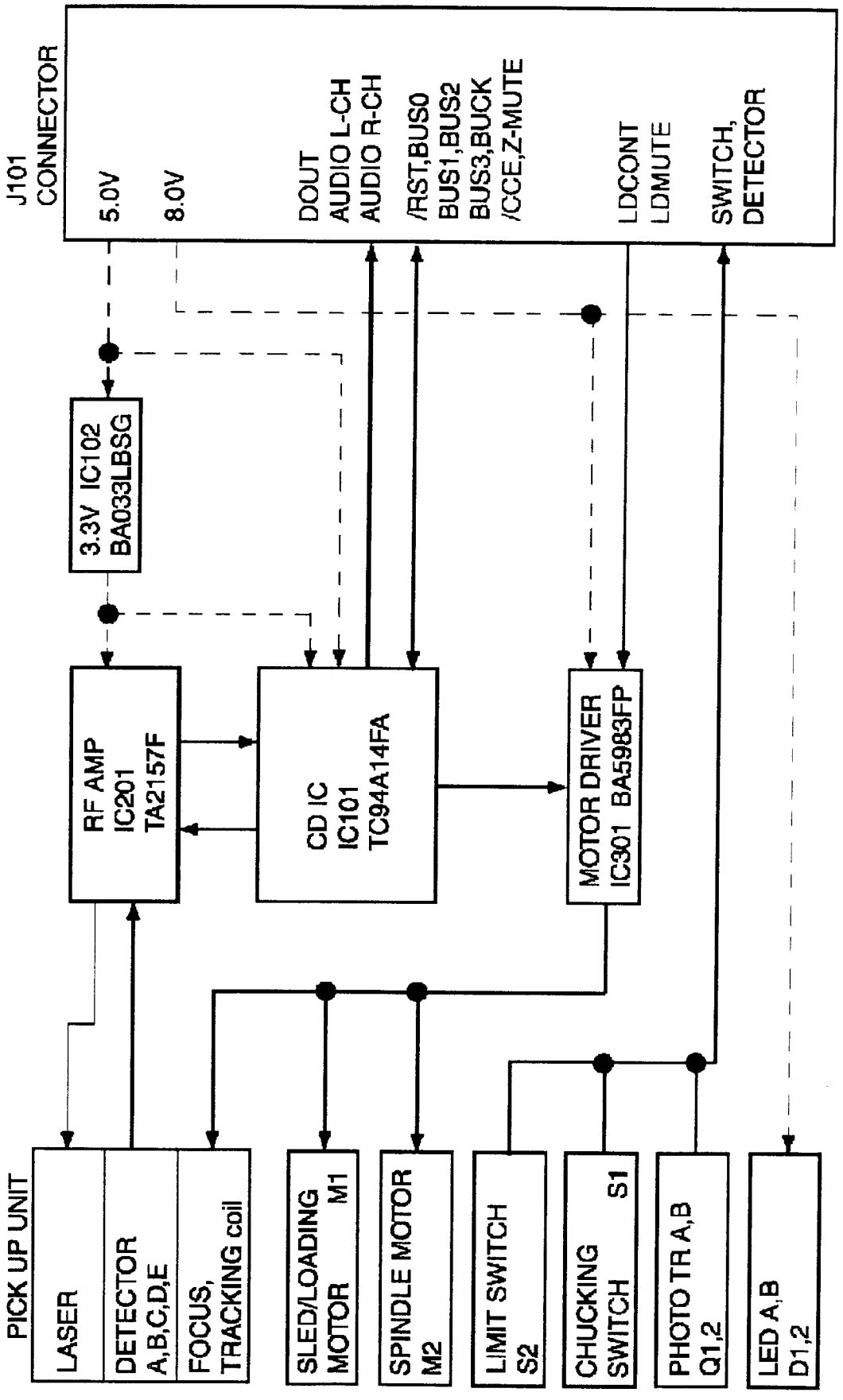
REF No.	PART No.	DESCRIPTION
IC 701	051-6057-00	ML9090-01
Q 701	125-2017-07	RN1427
Q 702	125-2017-07	RN1427
Q 703	060-4011-80	
Q 704	102-2712-00	2SC2712
Q 705	100-1162-00	2SA1162
Q 706	102-2712-51	2SA2712GL
D 701	001-0529-32	MA8056M
D 702	001-7030-02	LED
D 713	001-7055-90	DIODE
D 714	001-7055-90	DIODE
D 715	001-7055-90	DIODE
D 716	001-7055-90	DIODE
D 717	001-7055-90	DIODE
D 718	001-7055-90	DIODE
C 705	042-0416-51	10 μ F 6.3V TAN
C 706	168-1042-78	0.1 μ F 50V
C 707	042-0416-51	10 μ F 6.3V TAN
C 708	042-0416-50	4.7 μ F 16V TAN
C 710	168-1042-78	0.1 μ F 50V
C 711	042-0416-50	4.7 μ F 16V TAN
R 705	119-3921-10	1/16W 3.9K Ω
R 707	119-1011-10	1/16W 100 Ω
R 708	119-1041-10	1/16W 100K Ω
R 710	119-1521-10	1/16W 1.5K Ω
R 711	119-1521-10	1/16W 1.5K Ω

REF No.	PART No.	DESCRIPTION
R 714	032-0140-98	1/10W 330 Ω (F)
R 715	032-0140-98	1/10W 330 Ω (F)
R 716	032-0140-98	1/10W 330 Ω (F)
R 717	032-0140-98	1/10W 330 Ω (F)
R 718	032-0140-98	1/10W 330 Ω (F)
R 719	032-0140-98	1/10W 330 Ω (F)
R 720	032-0140-98	1/10W 330 Ω (F)
R 721	032-0140-98	1/10W 330 Ω (F)
R 722	032-0140-98	1/10W 330 Ω (F)
R 723	032-0140-98	1/10W 330 Ω (F)
R 724	032-0140-98	1/10W 330 Ω (F)
R 725	032-0140-98	1/10W 330 Ω (F)
R 728	119-1521-10	1/16W 1.5K Ω
R 729	119-1521-10	1/16W 1.5K Ω
R 730	119-1521-10	1/16W 1.5K Ω
R 731	119-1521-10	1/16W 1.5K Ω
R 732	119-1221-10	1/16W 1.2K Ω
R 733	119-1221-10	1/16W 1.2K Ω
R 734	119-1221-10	1/16W 1.2K Ω
R 735	119-1221-10	1/16W 1.2K Ω
R 736	119-1521-10	1/16W 1.5K Ω
R 737	119-1221-10	1/16W 1.2K Ω
R 738	119-1221-10	1/16W 1.2K Ω
R 739	119-1521-10	1/16W 1.5K Ω
R 745	119-1811-10	1/16W 180 Ω
R 750	032-0140-00	1/10W 56K Ω (F)

REF No.	PART No.	DESCRIPTION
R 751	032-0140-53	1/10W 2.2K Ω (F)
R 752	032-0140-98	1/10W 330 Ω (F)
R 753	119-4731-10	1/16W 47K Ω
CN 101	076-0647-00	PLUG
S 701	016-9900-85	ENCODE SWITCH
S 702	013-6519-50	ILLUMI SWITCH
S 703	013-6519-50	ILLUMI SWITCH
S 704	013-6507-50	SWITCH
S 706	013-6519-50	ILLUMI SWITCH
S 707	013-6519-50	ILLUMI SWITCH
S 708	013-6507-50	SWITCH
S 709	013-6507-50	SWITCH
S 710	013-6519-50	ILLUMI SWITCH
S 711	013-6511-50	ILLUMI SWITCH
S 712	013-6519-50	ILLUMI SWITCH
S 713	013-6507-50	SWITCH
S 714	013-6507-50	SWITCH
S 715	013-6519-50	ILLUMI SWITCH
S 716	013-6511-50	ILLUMI SWITCH
S 717	013-6519-50	ILLUMI SWITCH
S 718	013-6507-50	SWITCH
S 719	013-6519-50	ILLUMI SWITCH
S 720	013-6519-50	ILLUMI SWITCH
S 721	013-6519-50	ILLUMI SWITCH
S 723	013-6519-50	ILLUMI SWITCH
IR 701	060-4008-00	RS-170

■ BLOCK DIAGRAM

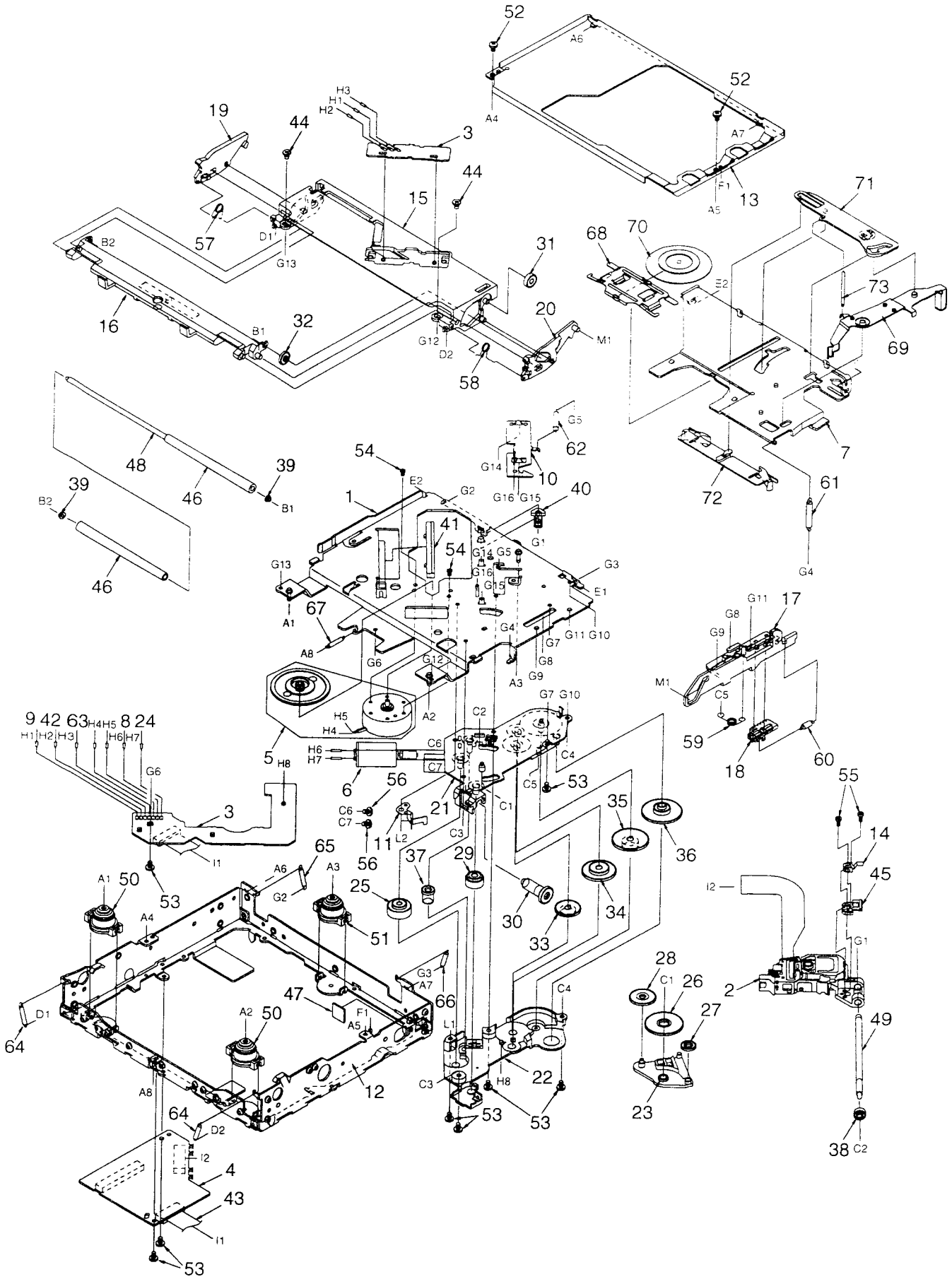
CD mechanism section 929-0226-80



DXZ8ER

■ EXPLODED VIEW:

CD mechanism section 929-0226-80



DXZ828R

■ PARTS LIST:

CD mechanism section 929-0226-80

Note) Several different parts of the same reference number are alternative parts.
One of those parts is used in the set.

NO.	PARTS NO.	DESCRIPTION	QTY
1	966-0595-25	DRIVE PLATE ASSY	1
2	969-0060-30	PICK UP UNIT	1
3	039-1944-21	LED PWB (WITHOUT COMPONENT)	1
4	039-1945-20	CD PWB (WITHOUT COMPONENT)	1
5	SMA-182-100	MOTOR ASSY(SPINDLE)	1
6	SMA-183-100	MOTOR ASSY(SLED)	1
7	620-1022-24	CLAMPER LINK	1
8	803-4906-60	VINYL COAT WIRE(ORG)	1
9	816-2591-00	LEAD WIRE(YEL)	1
10	620-1025-22	ID-LOCK PLATE	1
11	620-1026-21	SPRING PLATE	1
12	620-1027-25	LOWER CHASSIS	1
13	620-1028-22	UPPER CHASSIS	1
14	966-0638-20	SH-RACK-ASSY	1
15	621-0598-26	UPPER GUIDE	1
16	621-0599-25	ROLLER GUIDE	1
17	621-0600-25	SHIFT LEVER	1
18	621-0601-21	RACK	1
19	621-0602-22	LOCK ARM(L)	1
20	621-0603-25	LOCK ARM(R)	1
21	621-0604-22	GEAR BASE	1
22	621-0605-22	GEAR COVER	1
23	621-0606-21	IDLE CASE	1
24	816-2590-00	VINYL COAT WIRE(GRN)	1
25	621-0608-21	SECOND GEAR	1
26	621-0609-20	BASE GEAR	1
27	621-0610-20	IDLE GEAR A	1
28	621-0611-20	IDLE GEAR B	1
29	621-0612-21	ROLLER GEAR A	1
30	621-0613-20	ROLLER GEAR B	1
31	621-0614-20	ROLLER GEAR C	1
32	621-0615-21	ROLLER GEAR D	1
33	621-0616-20	POWER GEAR A	1
34	621-0617-20	ROWER GEAR B	1
35	621-0618-20	ROWER GEAR C	1
36	621-0619-20	POWER GEAR D	1

NO.	PARTS NO.	DESCRIPTION	QTY
37	621-0620-20	THREAD GEAR A	1
38	621-0621-20	THREAD GEAR B	1
39	621-0622-20	ROLLER SLEEVE	2
40	621-0623-21	LS-HOLDER	1
41	621-0624-21	GUIDE RAIL	1
42	816-2593-00	LEAD WIRE(PUR)	1
43	816-2542-01	FLAT WIRE(10P)	1
44	716-3473-00	SCREW	2
45	621-0709-20	SH-BASE	1
46	621-0629-20	LOADING ROLLER	2
47	345-8704-20	CUSHION RUBBER	1
48	622-1571-21	ROLLER SHAFT	1
49	624-0018-01	LEAD SCREW	1
50	629-0081-20	DAMPER F	2
51	629-0082-20	DAMPER R	1
52	714-2003-81	MACHINE SCREW	2
53	716-1507-00	SCREW	8
54	716-1733-00	SCREW	2
55	716-3469-00	SCREW	2
56	716-3446-00	SCREW	2
57	750-3465-21	ROLLER SPRING(L)	1
58	750-3466-20	ROLLER SPRING(R)	1
59	750-3467-21	SHIFT SPRING	1
60	750-3468-20	RACK SPRING	1
61	750-3469-20	CLAMPER SPRING	1
62	750-3470-20	ID-LOCK SPRING	1
63	816-2592-00	LEAD WIRE(BLU)	1
64	750-3472-21	DR-SPRING F	2
65	750-3473-20	DR-SPRING RA	1
66	750-3474-20	DR-SPRING RB	1
67	750-3475-21	DR-SPRING C	1
68	620-1023-23	CLAMPER PLATE	1
69	620-1024-23	SENSOR ARM	1
70	621-0708-20	CLAMPER RING	1
71	621-0626-20	STOPPER LINK	1
72	621-0627-21	DISC STOPPER	1
73	750-3471-20	SENSOR SPRING	1

■ ELECTRICAL PARTS LIST:

CD mechanism section 929-0226-80

Note)Several different parts of the same reference number are alternative parts.
One of those parts is used in the set.

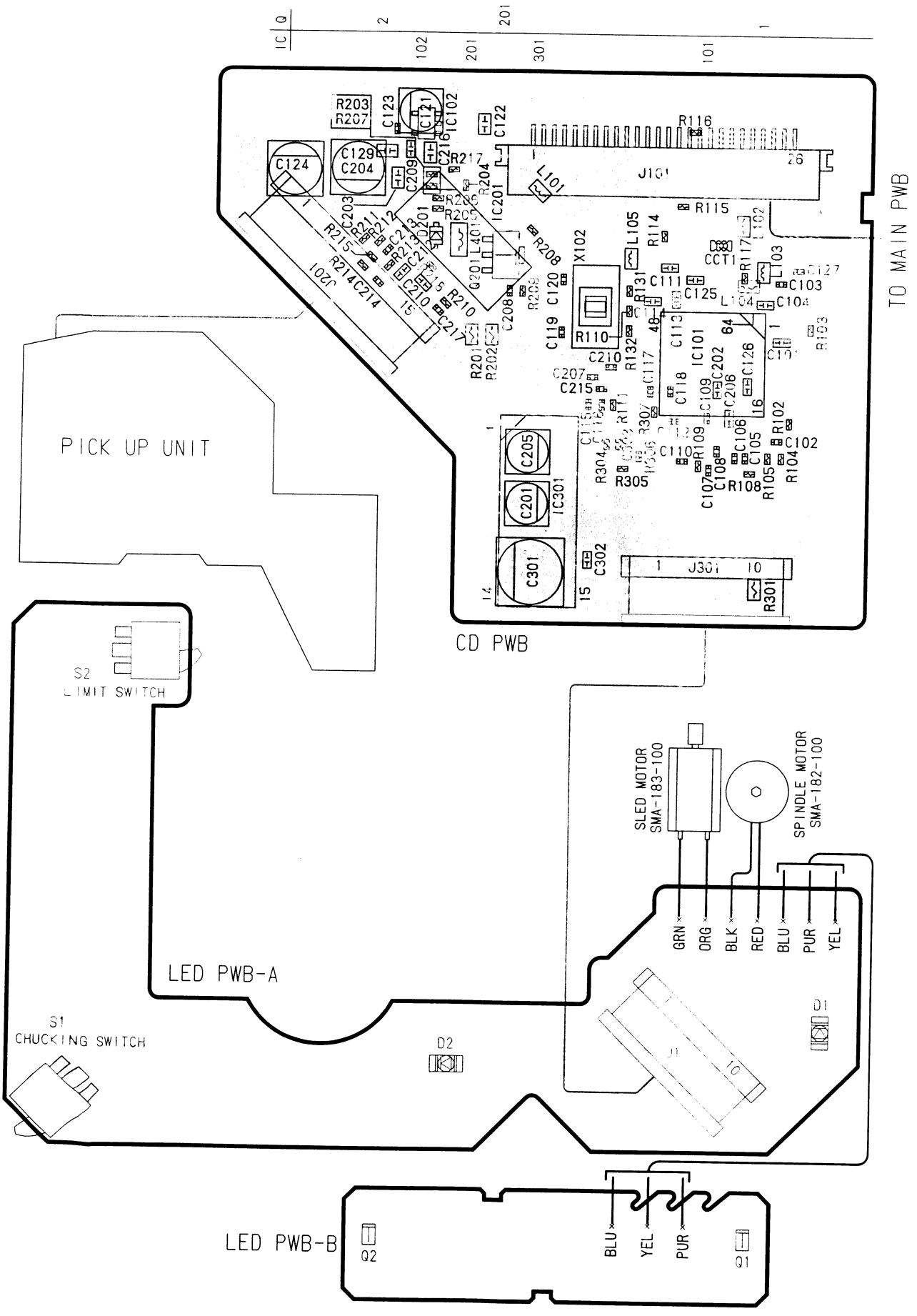
REF No.	PART No.	DESCRIPTION
C 101	168-1042-78	0.1 μF
C 102	045-4701-50	47pF
C 103	046-4722-58	4700pF
C 104	168-1042-78	0.1 μF
C 105	046-1532-78	0.015 μF
C 106	046-1032-78	0.01 μF
C 107	046-1032-78	0.01 μF
C 108	046-4722-58	4700pF
C 109	046-1522-58	1500pF
C 110	046-3332-78	0.033 μF
C 111	168-1042-78	0.1 μF
C 112	046-3332-78	0.033 μF
C 113	168-1042-78	0.1 μF
C 114	168-1042-78	0.1 μF
C 115	046-4712-58	470pF
C 116	046-4712-58	470pF
C 117	043-0533-50	0.047 μF
C 118	043-0533-50	0.047 μF
C 119	045-2701-50	27pF
C 120	045-1801-50	18pF
C 121	163-1063-35	16V 10 μF
C 122	178-1052-78	1 μF
C 123	046-1032-78	0.01 μF
C 124	163-1073-05	4V 100 μF
C 125	168-1042-78	0.1 μF
C 126	168-1042-78	0.1 μF
C 127	045-1201-50	25V 12pF
C 129	178-1052-78	1 μF
C 201	163-3363-05	4V 33 μF
C 202	168-1042-78	0.1 μF
C 203	178-1052-78	1 μF
C 204	163-1073-05	4V 100 μF
C 205	163-3363-05	4V 33 μF
C 206	168-1042-78	0.1 μF
C 207	043-0533-50	0.047 μF
C 208	046-6822-58	6800pF

REF No.	PART No.	DESCRIPTION
C 209	168-1042-78	0.1 μF
C 210	043-0533-50	0.047 μF
C 211	168-1042-78	0.1 μF
C 212	168-1042-78	0.1 μF
C 213	045-5096-50	5pF
C 214	045-5601-50	56pF
C 215	043-0533-50	0.047 μF
C 216	178-1052-78	1 μF
C 217	045-1011-50	100pF
C 301	163-1073-35	16V 100 μF
C 302	168-1042-78	0.1 μF
C 303	043-0533-50	0.047 μF
D 201	001-0516-90	MA111
IC 101	051-6376-00	TC94A14FA
IC 102	051-3279-90	BA033LBSG
IC 201	051-5710-90	TA2157F
IC 301	051-6049-08	BA5983FP-E2
J 101	074-1228-76	26P
J 201	074-1138-65	15P
J 301	074-1138-60	10P
L 101	010-2285-57	BLM21B102SPT
L 102	010-2285-57	BLM21B102SPT
L 103	010-2285-57	BLM21B102SPT
L 104	010-2285-57	BLM21B102SPT
L 105	010-2285-57	BLM21B102SPT
L 401	010-3050-93	10 μH
Q 201	131-1188-50	2SB1188
R 102	033-5621-15	1/16W 5.6k Ω
R 103	033-3311-15	1/16W 330 Ω
R 104	033-4731-15	1/16W 47k Ω
R 105	033-1041-15	1/16W 100k Ω
R 108	033-1531-15	1/16W 15k Ω
R 109	033-1031-15	1/16W 10k Ω
R 110	033-1051-15	1/16W 1MΩ
R 111	033-3321-15	1/16W 3.3k Ω
R 114	033-2211-15	1/16W 220 Ω

REF No.	PART No.	DESCRIPTION
R 115	033-2211-15	1/16W 220 Ω
R 117	033-1021-15	1/16W 1k Ω
R 131	033-4711-15	1/16W 470 Ω
R 132	033-2211-15	1/16W 220 Ω
R 201	117-2201-15	1/10W 22 Ω
R 202	117-2201-15	1/10W 22 Ω
R 203	033-1041-15	1/16W 100k Ω
R 204	033-1041-15	1/16W 100k Ω
R 205	033-1041-15	1/16W 100k Ω
R 206	033-1041-15	1/16W 100k Ω
R 207	033-1041-15	1/16W 100k Ω
R 208	033-8231-15	1/16W 82k Ω
R 209	033-6811-15	1/16W 680 Ω
R 210	033-6831-15	1/16W 68k Ω
R 211	033-1831-15	1/16W 18k Ω
R 212	033-2721-15	1/16W 2.7k Ω
R 213	033-1011-15	1/16W 100 Ω
R 214	033-1021-15	1/16W 1k Ω
R 215	033-1031-15	1/16W 10k Ω
R 217	033-1041-15	1/16W 100k Ω
R 218	033-2211-15	1/16W 220 Ω
R 301	117-6811-15	1/16W 680 Ω
R 304	033-3921-15	1/16W 3.9k Ω
R 305	033-3921-15	1/16W 3.9k Ω
R 306	033-1041-15	1/16W 100k Ω
R 307	033-2211-15	1/16W 220Ω
X 102	060-1528-90	16.934M
D 1	001-7058-90	AN1105W-R R
D 2	001-7058-90	AN1105W-R R
J 1	074-1138-60	10P
Q 1	060-4015-90	PS1192H
Q 2	060-4015-90	PS1192H
S 1	013-7414-50	CHUCKING
S 2	013-7413-50	LIMIT

■ PRINTED WIRING BOARD:

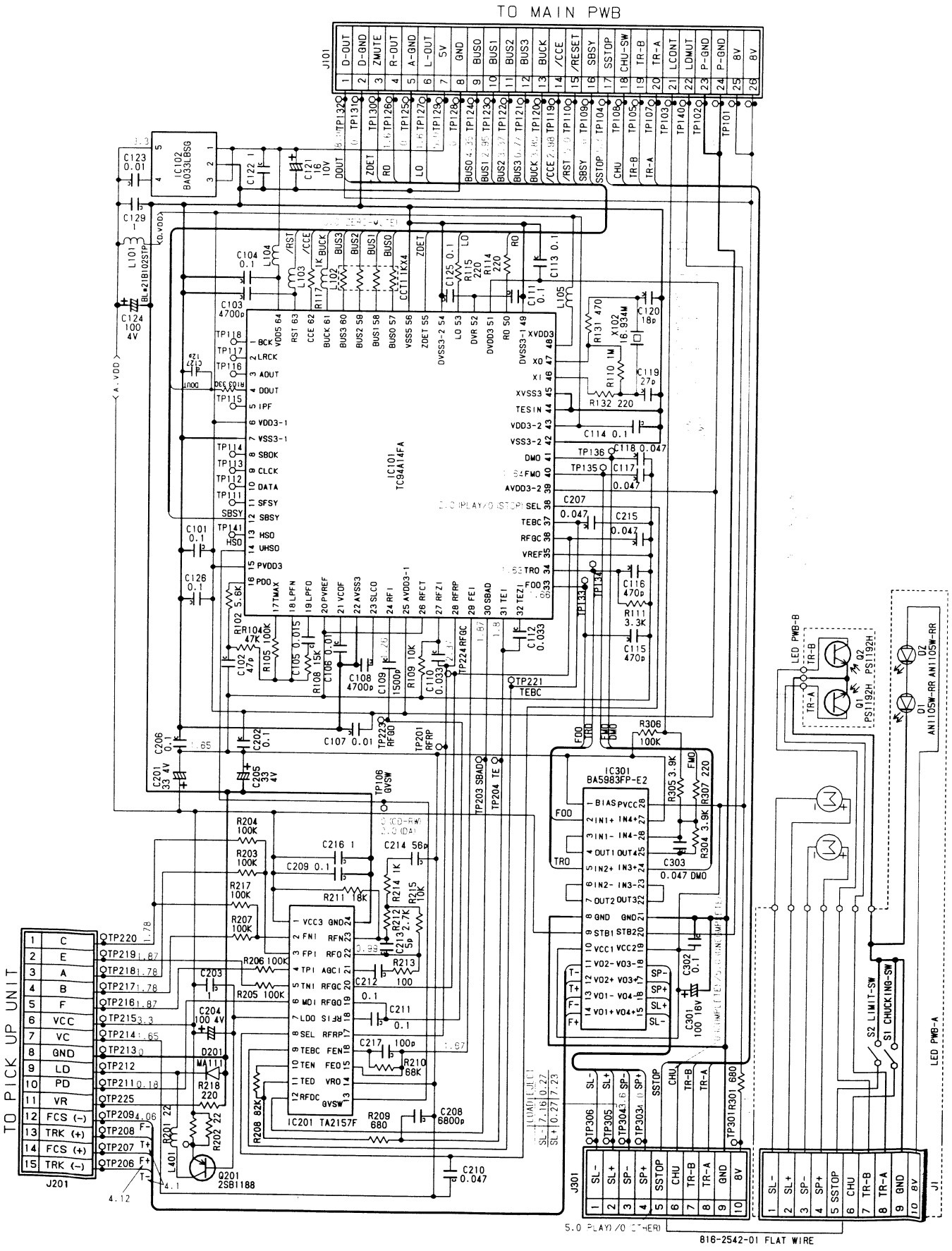
CD mechanism section 929-0226-80



DXZ828R

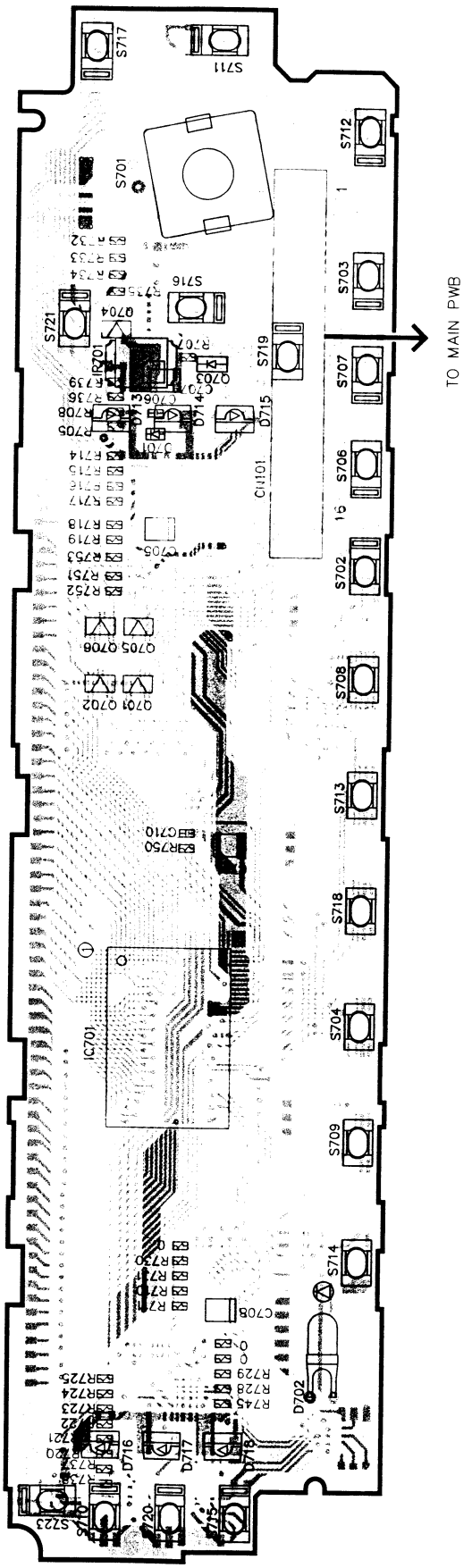
■ CIRCUIT DIAGRAM:

CD mechanism section 929-0226-80



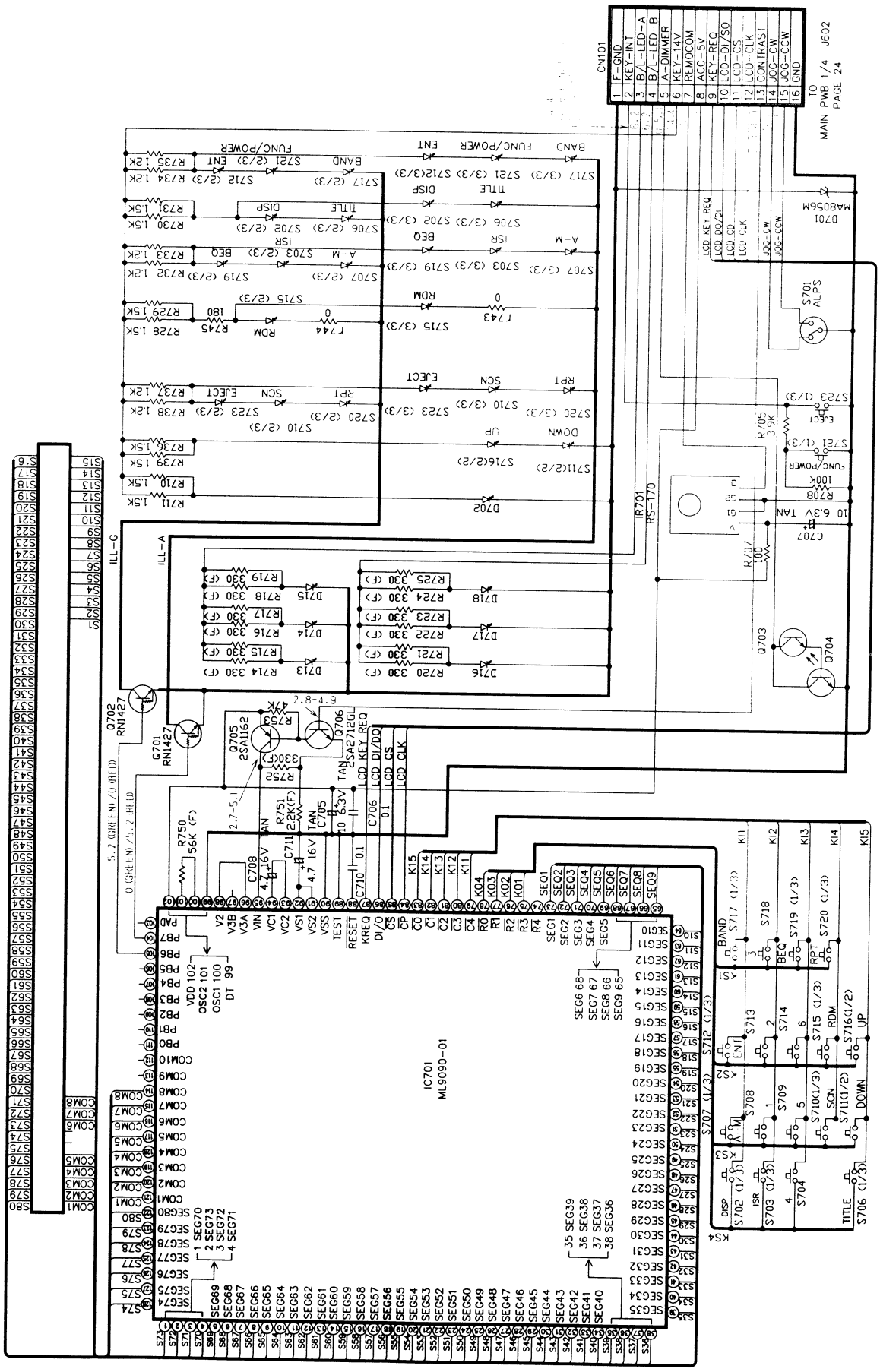
■ PRINTED WIRING BOARD:

Switch PWB (B2) section



■ CIRCUIT DIAGRAM:

Switch PWB (B2) section
*REF No. with "r(small letter)" like r743 means a jumper wire



■ PRINTED WIRING BOARD:

Main PWB (B1) section

CE-NET LINE

CASE	GND(SHIELD)
6	BUS(+)
5	EXT-A(-)
4	EXT-A(+)
3	L-CH(+)
2	BUS 14V
1	GND
PIN NO.	DESCRIPTION

CE-NET LINE

13	RESERVE
12	ILLUM!
11	L-CH(-)
10	BUS(-)
9	SYS-ACC
8	R-CH(-)
7	R-CH(+)
PIN NO.	DESCRIPTION

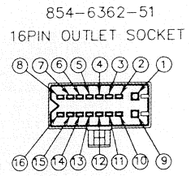
13P DIN (CE-NET)

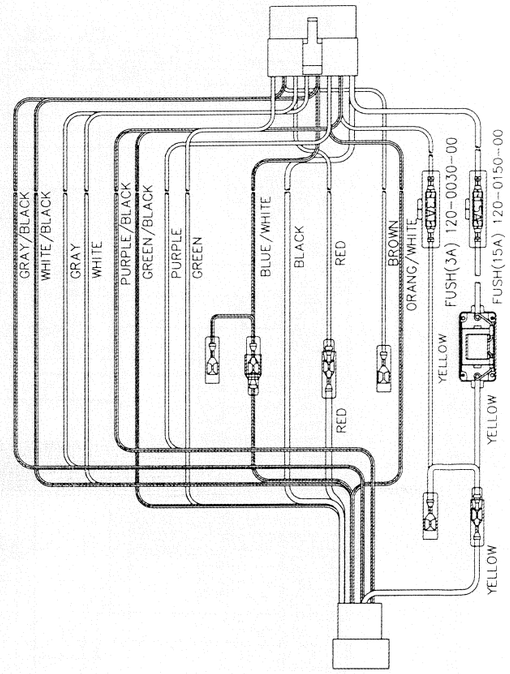
855-5458-50 RED
RED AUX IN/RIGHT
WHITE AUX IN/LEFT

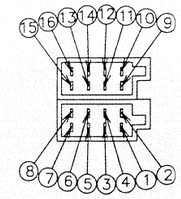
855-5424-50 GRAY
RED FRONT/RIGHT
WHITE FRONT/LEFT
BLACK RED REAR/RIGHT
WHITE REAR/LEFT
PURPLE RED NON-FADER/RIGHT
WHITE NON-FADER/LEFT

RCA LINE OUT

854-6362-51
16PIN OUTLET SOCKET







EX-LEAD (CONNECTOR)

PIN NO.	DESCRIPTION	LINE COLOR
1	GND	BLACK
2	BUS 14V	YELLOW
3	ILLUMI	ORANGE/WHITE
4	REMOTE	BLUE/WHITE
5		
6	ACC	RED
7	PHONE INT	BROWN
8	SP R/L ⊖	GREEN/BLACK
9	BACK UP	YELLOW
10	SP R/R ⊖	PURPLE/BLACK
11	SP R/R ⊕	PURPLE
12	SP F/R ⊖	GRAY/BLACK
13	SP F/R ⊕	GRAY
14	SP F/L ⊕	WHITE
15	SP F/L ⊖	WHITE/BLACK
16	SP R/L ⊕	GREEN

Q	IC
Q201	
Q202 Q602	
	IC406
Q9	IC802
	IC801
Q6 Q7	
Q3 Q2	
Q8	IC408
Q413	IC302
Q801	
Q250	
Q402 Q401	IC1
Q244	IC303
Q308	
	IC220
Q245	IC401
Q224	
Q403 Q405	
Q404 Q406	
	IC101
Q307	IC407
Q251	IC501
Q416	
Q414 Q415	IC404
	IC402
	IC403
	IC405
	IC408
Q243	
Q252 Q236 Q235	
Q504	
Q503	
Q253	
Q247	
Q505 Q212	IC260
	IC504
Q603 Q213 Q230	
Q248 Q240	
Q231	
Q226	IC230
Q246	
Q232 Q227	
Q228	
Q242 Q225	IC506
Q222 Q211	
Q617 Q210	
Q239	
Q223	IC502
	IC505

TO CD MECHANISM

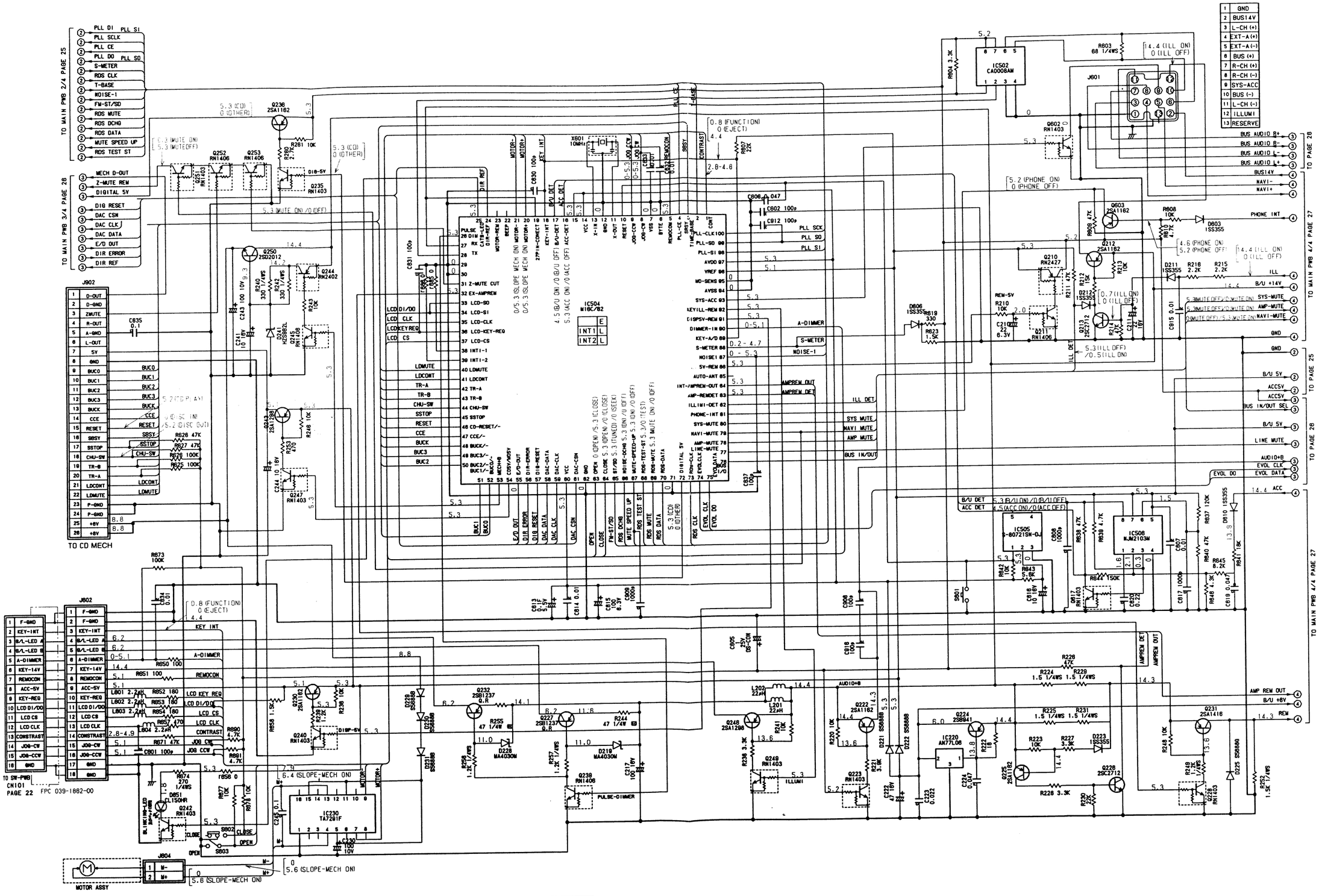
TO SW PWB

TO MOTOR ASSY

■ CIRCUIT DIAGRAM:

Main PWB (B1) section 1/4

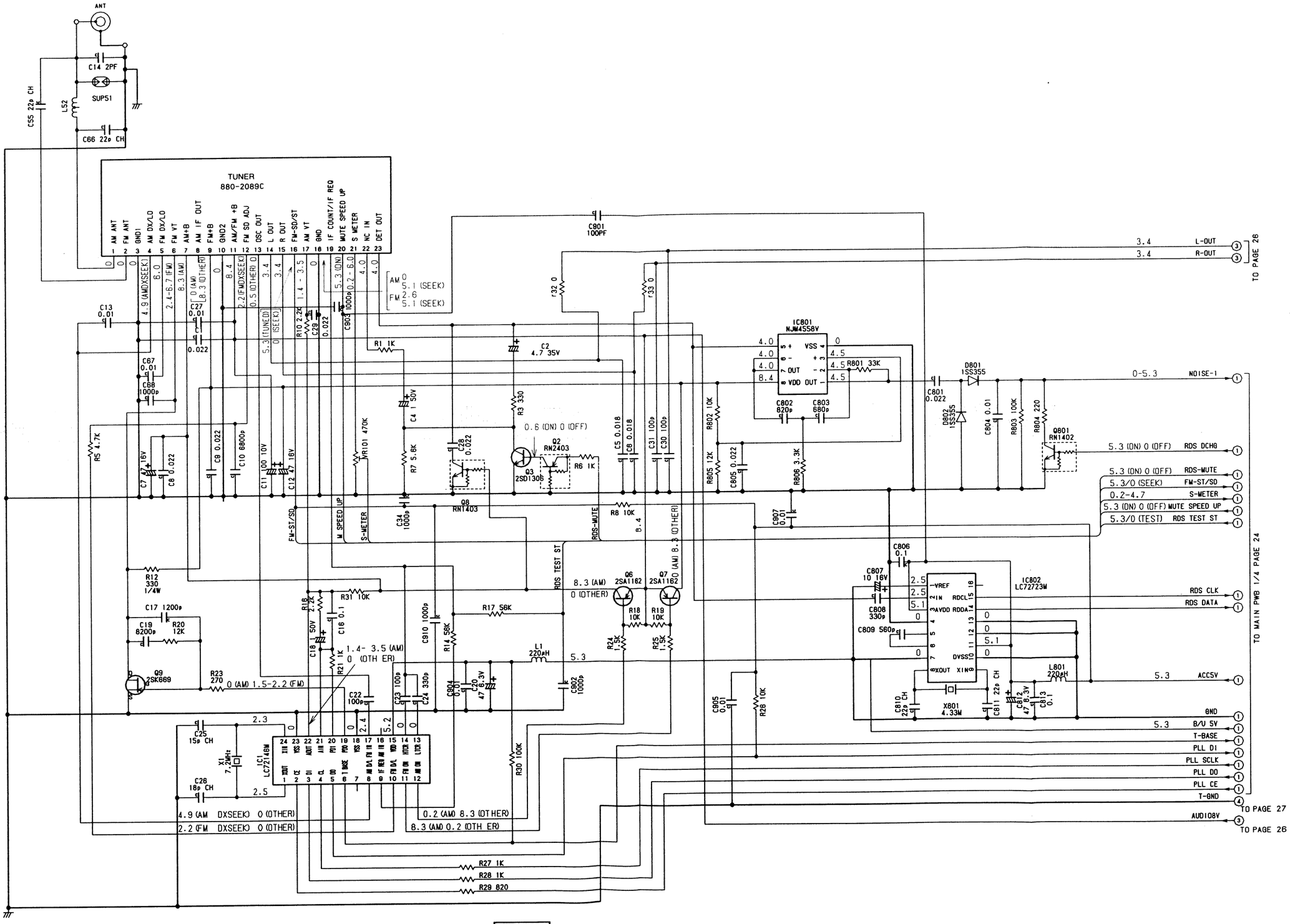
*REF No.with "r(small letter)" like r685 means a jumper wire.



■ CIRCUIT DIAGRAM:

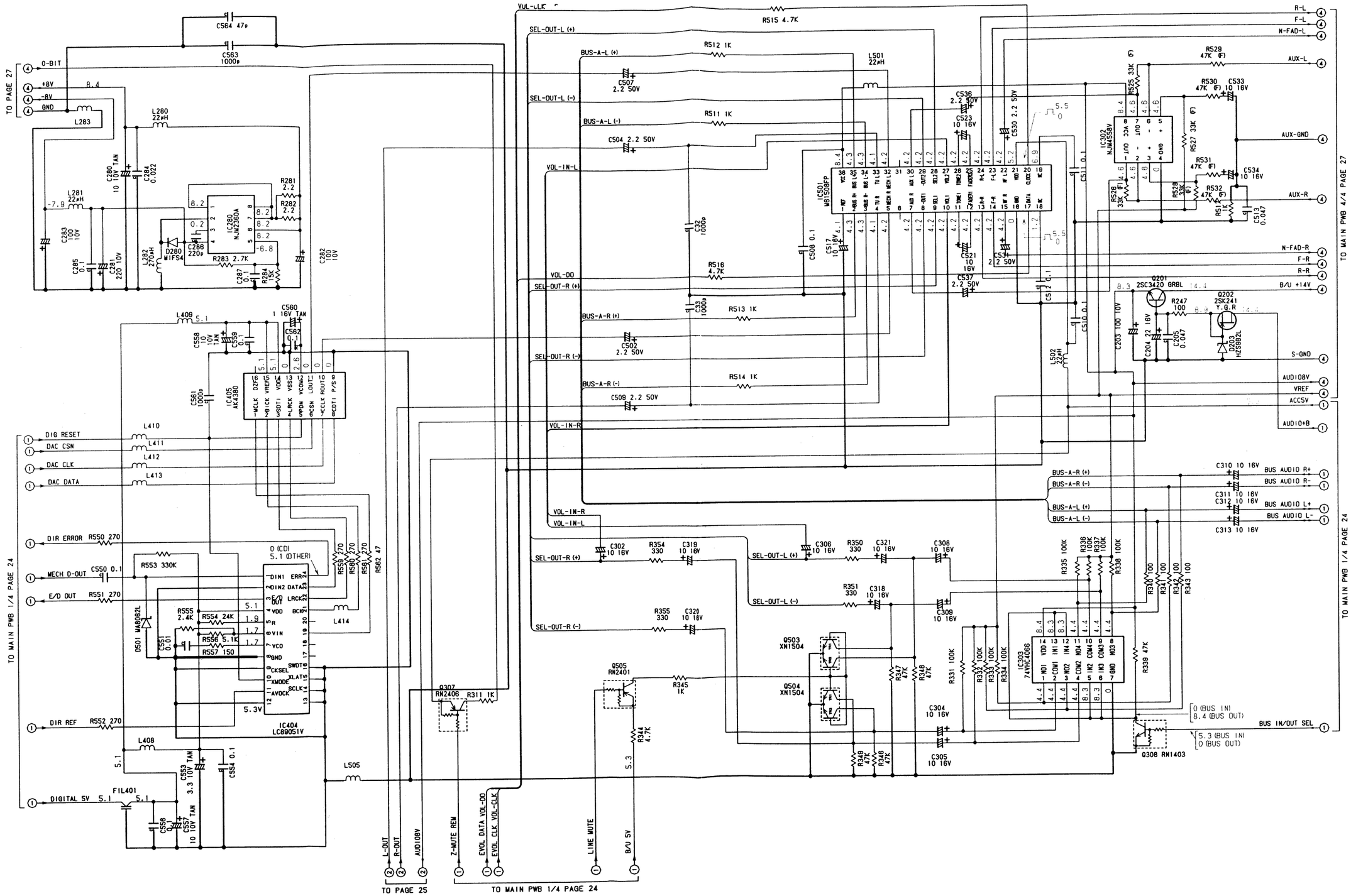
Main PWB (B1) section 2/4

*REF No. with "r(small letter)" like r33 means a jumper wire.



■ CIRCUIT DIAGRAM:

Main PWB (B1) section 3/4



■ CIRCUIT DIAGRAM:

Main PWB (B1) section 4/4